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# MANAGEMENT OF BRIGHT'S DISEASE AND HYPERTENSION*

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WHEN the chairman informed me that the subject for discussion should be Nephritis and Hypertension he added—I presume designedly—that you were a group of practitioners. This, I take it, was a warning that I should confine my efforts to matters that concern the family physician in his management of such problems. I shall try to do my best to comply with this request.

In order that we may understand each other let me first define the three principal groups into which Bright's Disease is divided.

(1) Hemorrhagic or glomerulonephritis originates as a *generalized* anaphylactic inflammatory disease of the capillaries involving especially the capillaries of the kidneys. If cure is not effected in the early stages there eventually follow hypertension, renal failure and death in uremia in two thirds of the cases.

(2) Nephrosis is again a *generalized* disease, this time one of metabolism with associated nonvascular degeneration of the kidneys. Recovery may be complete or incomplete leaving the patient with a persistent albuminuria. If death occurs in the nephrotic stage it is usually due to intercurrent infection especially peritonitis or pneumonia. The combination of glomerulonephritis and nephrosis is far more common than pure nephrosis.

(3) The Scleroses, which include vascular hypertension and chronic vascular nephritis or nephrosclerosis, are both generalized and degenerative in type but they are vascular degenerative. The kidneys are involved to a greater or lesser degree in the progressive ischemia of the various organs. Death from uremia occurs in less than one third of the patients. Heart failure or cerebral accident is common.

Before we turn to the management of patients with these three types of disease let me ask you to bear in mind clearly two facts. (1) These three types tend to overlap and are therefore frequently "mixed". For lack of time we will discuss only the pure types. (2) Every one of these diseases are generalized disorders in which the kidneys merely play a part, sometimes major, sometimes minor.

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## ACUTE HEMORRHAGIC NEPHRITIS

And now for the consideration of patients. Suppose you are called to a young adult from whom you obtain a story that he was apparently well until two weeks ago when he had a rather mild sore throat. Despite the mildness of the throat infection he complained that "it took a lot out of him". Three days ago his shoes began to feel tight and a member of the family noted that he was a bit puffy around the eyes. Yesterday, he recalled that his urine was a bit scanty and dark. Examination discloses in addition to the edema a slight pallor and a pressure of 180/100. Examination of the urine of our patient shows a high specific gravity, a large trace of albumin, red cells in abundance and cellular and granular casts. In such a case blood chemistry determinations are not necessary unless you suspect chronicity or unless a marked and prolonged oliguria becomes a disturbing feature.

What are you going to do for such an acute nephritis patient? Of course he must go to bed. "For how long?" he asks. If the patient is fortunate enough to run a course of four to six weeks there is no great difficulty. If the disease drags on, the family must be tactfully but definitely informed that chronic Bright's disease is certain unless every opportunity is given the patient for cure in the early stages. This means bed rest and, if necessary, for months. He should not be allowed up until the urine sediments show no red blood cells for at least two weeks. He should then be allowed up gradually. Meanwhile you watch the sediment closely. Many red cells mean a return to bed.

Weeks or months in bed without symptoms try the patience of the patient, his family and yourself. If after weeks in bed the only abnormality is the persistence of five to ten red blood cells per high power field and especially if you have reason to suspect that this attack is merely an exacerbation of a chronic condition you need expect no cure. A normal sedimentation rate may prove to be a helpful test in determining the earliest safe time for the patient to get out of bed.

In feeding such a patient there are two car-

dinal dietetic principles, (1) limitation of fluids and (2) the avoidance of prolonged underfeeding. In the beginning with the edema in the face, legs, etc., 800 cc. of fluid in twenty-four hours is correct. With the cessation of diuresis this level may be increased first to 1000 cc. and then carefully and gradually to 1500 cc. Except in very special cases forcing of fluids is no longer good practice. This accomplishes only the rupture of additional glomerular capillaries and in the edema stage merely adds to the edema. During the first two or three days a very practical procedure is to give the patient no solid food but merely 800 cc. of fruit juice, water or milk. Two or three so-called "sugar days" with 150 to 200 grams of glucose flavored with lemon juice also makes an excellent start. After this if there is no nausea you may more or less rapidly increase the carbohydrates and other foods until the patient is getting a fairly liberal mixed diet restricted mostly in its fluid and salt content. If all goes well the patient should reach this goal at the end of approximately two weeks. It is quite unnecessary in the average case to determine accurately the protein and salt intake in the diet of the average acute nephritic. It is, however, absolutely necessary to avoid any prolonged underfeeding. At this point let me give you two dietetic axioms for all nephritic patients. (1) A protein ration of less than 600 grams per day for an adult is inadequate because of its deficiency in iron, calcium and phosphorus. (2) Except in specific instances where the level of blood nitrogen is high and you must try to reduce it, the optimum protein ration is one gram per kilo.

Except for symptomatic and special purposes, drugs are practically without value in acute nephritis. The bowels should of course be kept open to a reasonable degree preferably with salines. Diuretics of all kinds are absolutely contraindicated; they are ineffective and often harmful. This statement disposes of the proverbial Basham's mixture. Even its iron is not indicated because as yet there is no real anemia.

Special drugs and other procedures may be indicated by special conditions. Suppose this patient of ours did what one of mine once did. After a day or two of headache he gradually became very restless, jumped out of bed and ran wildly around the house. Such a psychotic picture is, of course, not a true uremia but an encephalopathy which is, at times, accompanied by convulsions and other nervous manifestations. The correct interpretation of these facts should suggest the great value of bleeding or intravenous or intramuscular magnesium sulphate.

What more can we do for our acute nephritic patient? Obviously we must protect him against all intercurrent infections. Suppose he already has infected teeth or tonsils. When should these foci of infection be removed? Except when necessity demands immediate action it is wiser to let the more chronic infections ride until convalescence is thoroughly established. Removing tonsils and other focal infections early in nephritis serves only to open up old channels and to add new toxins to stir up greater activity in the kidney. After the patient is quite well or is showing only minimal signs, I favor removal of the tonsils in every case that has a history of sore throats, poor looking tonsils or glands in the neck.

Occasionally in the very toxic acute nephritic, a serious anuria develops. In such the all-important therapy is to ignore completely the question of edema. An edematous patient is never toxic. Give the patient plenty of fluid by vein or under the skin. Fortunately in most cases secretion starts again about the time when you begin to worry. I have never seen anything accomplished by decapsulation. The recommendation of Volhard of light x-ray therapy does not seem sensible.

### HYPERTENSIVE ENCEPHALOPATHY

Suppose that this young patient of ours has not been cured of his acute nephritis and that you have been following him along for a matter of two or three years. During that time his pressure has risen so that it is now high in both systolic and diastolic phases, his color has remained good and there is no anemia. He has continued to run an albuminuria but obviously can concentrate well and his phthalein test and B. U. N. are normal or close thereto. For a few days he had been complaining about headaches which do not respond to ordinary therapy. Suddenly, without further warning, he goes into a series of generalized convulsions and lapses into coma. Is this uremia? To some men, hypertension, albuminuria, convulsions and coma always spell uremia. But in our patient we have said that there was no anemia and renal function was good. Furthermore, the onset of this episode, apart from the headaches, was entirely acute. All of these factors point away from uremia. Has he had a cerebral hemorrhage? This, of course, is more likely with his headaches, his hypertension and his normal renal function. However, he shows no signs of paralysis. Of course, he may still have had a cerebral hemorrhage in a silent area. But we must bear in mind a third and most important possibility, hypertensive encephalopathy, whose nervous manifestations vary from mere headache to psychoses, coma and death, is somewhat more common. Let us assume for the sake of discussion that we are satisfied that he has had no cerebral hemorrhage and that his symptoms are due to an encephalopathy. What is the treatment for such a patient? Naturally, the first thought is morphine. Prompt venesection of 500 cc. is of great value. Magnesium sul-

phate in any form but especially intravenously or intramuscularly, occasionally produces extraordinarily good results. An intravenous injection of 20 cc. of a 10 per cent solution or an intramuscular injection of 15 cc. of a 20 per cent solution every two hours is the best method of using this drug. It apparently acts through relaxation of the spastic smooth muscles and at times there may be a very disturbing drop in pressure. In one of our patients the pressure fell in a very few moments from 240 to 160 mm. Lumbar puncture, because of the marked increase in the intracranial pressure in these cases, is another worth while therapeutic measure. The fluid should be removed slowly and not below 200 mm. of water pressure.

### UREMIA

Let us assume that in spite of treatment the course of this patient of ours was gradually downward into a progressively increased renal insufficiency. He now complains of great fatigue, shortness of breath, occasional nausea and vomiting, headache, and some blurring of vision. Examination discloses a true pallor, a retinitis, ammoniacal breath, a somewhat enlarged and rapid heart, râles at the bases, slight edema of the shins and a well-marked hypertension. Obviously you now have two problems. The shortness of breath, the edema and the rapid heart indicate congestive heart failure and the need for bed rest and digitalis. The other problem centers around the renal insufficiency indicated by the anemia and the ammoniacal breath. Without doubt if you had access to a chemical laboratory the B. U. N. would be found high. What can you do for these uremic manifestations? Of course, the patient belongs in bed, not merely because of his heart but because, at rest in bed, he breaks down less tissue protein to add to the nitrogen retention. What about his diet? A Karell or modified Karell diet for two or three days may be very helpful for both the heart and the kidneys. After this, if not vomiting, the patient should be placed on a high calorie diet with plenty of the protein-sparing carbohydrates. The proteins may be limited for a time to 40 grams. The salt should be restricted to that already in the food when it comes to the table with perhaps an additional 2 or 3 grams to offset the loss of base through vomiting and through combination with toxic acid bodies. This unsafe low level of protein should be continued only until the nitrogen retention has been reduced as low as you can get it. Then this ration should be gradually stepped up to 60 grams or to the optimum of one gram per kilo.

How about fluids? Here we are in a dilemma. With kidneys as bad as his an increase of fluids to 3000 cc. or more might dilute the retained nitrogen bodies to a level at which they could be excreted. However, if excessive amounts of fluid are allowed you run the risk of upsetting the heart. I have seen at least three cases in which excessive enthusiasm for treatment of the retained nitrogen by forcing fluids has been followed by pulmonary edema. You had better compromise on 2500 cc. and watch the heart closely.

But what about a patient who is vomiting and excreting but little urine? You cannot feed him a mixed diet of correct proportions. The most important therapy for such a patient is to get fluid into him in any way you can, preferably intravenously or under the skin. He must receive at least 2000 cc. in the twenty-four hours. If fluid is given subcutaneously, saline, with or without 5 per cent glucose, is very helpful. If given intravenously you may use saline with 10 or even 20 per cent glucose in addition, to correct the loss of chloride through vomiting. How about food in such a case? The best rule to follow is to take the patient off all restrictions and let him have small amounts of any food that he cares for or that an intelligent nurse can get into him. Experience shows that a man who craves something apparently absurd may retain it when he will not tolerate simpler and more natural foods. Usually with adequate administration of fluids the vomiting is controlled and one may then get back to an appropriate dietetic régime.

As in the acute stages the place of drugs in the late stages of hemorrhagic nephritis is distinctly limited. Their use is largely for relief of symptoms. Digitalis may be necessary for the condition of the heart. Diuretics of all kinds are contraindicated. Iron, used from time immemorial, has had little if any effect. Possibly the administration of a good iron like ferrous sulphate between meals rather than at its usual place immediately after meals might result in greater absorption. Liver, or liver extract, in my experience, is without value. If underfeeding has existed an appropriate diet may result in improvement in the red count and hemoglobin. Transfusions are at best of temporary benefit. Other drugs that have some value for symptomatic purposes are the various sedatives for restlessness, sleeplessness, etc., dilute HCl for a day or two for vomiting, bicarbonate of soda or calcium lactate or gluconate for the acidotic dyspnea, calcium gluconate or magnesium sulphate by needle for twitching, and morphia, ether and chloroform for the convulsions. Sponging of the body with vinegar or weak acetic acid is the best remedy for the intolerable itch. Ergotamine tartrate, a somewhat dangerous drug, is also said to be of value for this condition.

Catharsis, if one is careful to avoid exhausting the patient, is of considerable value in ridding the bowel of the toxic phenols, indican, etc., that seem to be rapidly absorbed in this late stage. The old-fashioned sweat bath is both

futile and dangerous. Many times have I seen serious acute pulmonary edema follow such treatment. Venesection and plasmapheresis are also worthless.

### NEPHROSIS

Suppose now another young adult comes to your office with a complaint of swelling of the face and feet. He tells you that he has not been feeling normal for months. On examination you find edema of the face, ankles and shins, and perhaps a little fluid in the abdominal cavity. The urine shows again a high specific gravity, a large trace of albumin and in the sediment plenty of casts. But, you will quickly note that there are certain peculiarities in this case that distinguish it from acute hemorrhagic nephritis. In the first place there is no history of any provocative infection. The onset of the disease has been insidious. Examination shows no increased blood pressure and the urine is not red or smoky. You will recall that in hemorrhagic nephritis the sediment showed a predominantly cellular quality with numerous red blood cells, etc. In this nephrotic patient there is, by contrast, an almost complete absence of red cells although casts may be extremely numerous. Fat, free and on casts, may be present and some of these globules are doubly refractile.

If you think about these peculiarities the diagnosis of lipoid nephrosis is obvious. Pure cases are extremely rare and a combination of glomerulo-nephritis and nephrosis is more common. In such a patient slight hypertension and red blood cells in the urine give the clue. The conspicuous features are, however, not these but the edema and the excessive albuminuria.

Confirmation of the diagnosis will soon be evident clinically by the fact that the edema becomes more and more important and fails to disappear promptly as in acute hemorrhagic nephritis. No diuresis occurs on the usual treatment of acute hemorrhagic nephritis; the oliguria persists. The albumin likewise does not diminish and if you quantitate it you may find that the patient is excreting in his urine from 5 to 20 grams of protein per day. These three features, the persistent edema, the oliguria and the excessive albuminuria are the chief clinical features of the disease.

These features are enough for the clinician. If, however, you have laboratory facilities, confirmatory evidence is soon available. There is but little change in the non-protein elements, the blood fats and calcium. The serum protein is low, the globulin relatively high, the cholesterol high and the calcium low. The basal metabolism, too, is often below normal.

How should you manage such a patient? Although the lines of treatment are the same as in hemorrhagic nephritis, bedrest, diet, drugs and other procedures, there are distinct differences.

The patient should be kept in bed, if necessary for months, until the edema is completely under control.

The most important dietetic consideration is not to underfeed. My plan is to try to replace the protein already lost through the urine by giving the patient daily 120 grams or more of protein for two weeks. The protein intake is then dropped to the more acceptable one gram per kilo plus the average amount of albumin lost per day in the urine. The salt is limited to that which is in the food when it comes to the table with a little additional on unpalatable items.

Fluids are limited to 800 to 1000 cc. until the edema is gone. If oliguria remains marked, one may try Volhard's plan of limiting the intake on a given day to the level of the output of the previous day.

At first sight one might expect that the above procedures would result in a replacement of the blood proteins, an increase in the urine and a disappearance of the edema. Unfortunately this direct attack on the problem is rarely successful, perhaps due to the fact that we are dealing with a perverted protein metabolism. The protein in the urine is not serum protein as in hemorrhagic nephritis and it is highly probable that the blood protein in such a patient is also different from normal serum protein. Therefore we have to resort to other procedures.

Before speaking of these let me call your attention to the need for the utmost conservatism in the interpretation of the effect of any therapy. Spontaneous diuresis is the rule in this disease. The mere fact that a certain therapeutic measure has been followed by a diuresis is no certain evidence of cause and effect. Granting this, let us proceed to the diuretics.

Any diuretic may be effective in a given patient and all may fail. On the whole the xanthin group have been least effective although I am beginning to believe that when given to the point of nausea they are more effective than we have thought. Our experience with the "Acid Ash Diet" and the "High Potassium Diet" has been limited and not particularly favorable. Potassium chloride or calcium chloride in large doses is at times effective. Ammonium chloride by itself may produce diuresis although it is usually combined with the mercurials. Urea in doses of 60 to 100 grams per day is perhaps the best diuretic that can be given by mouth. One must be careful, however, of such large doses in patients who have a combination of glomerulonephritis and nephrosis. The B. U. N. may rise under such treatment to very disturbing levels.

The extremely "high alkali régime" recommended by Osman and Izod Bennett sometimes

works when all others fail. Perhaps its effect is due to its high potassium content. Thyroid extract, in my hands, even with large doses has not been successful.

In the average case one has to resort to injections of diuretics or substances aimed at increasing the osmotic tension of the blood. These include the mercurials, hypertonic glucose or sucrose, transfusion and acacia in 15 per cent solution. The first are perhaps the most useful and the most generally used. Salyrgan in doses of 0.5 to 2 cc., intravenously or intramuscularly, every three or four days following an artificial acidosis produced by ammonium chloride, is perhaps the best of them all. Mercuprin, a combination of mercury and a xanthin, is said to be equally good.

In some patients, tapping of body cavities and even drainage of the skin and subcutaneous tissues by incisions or Southey tubes become necessary.

Above all else these patients must be protected against infections because the commonest cause of death among them is not renal insufficiency but intercurrent infections especially peritonitis, erysipelas and pneumonia.

While some of these patients respond to the procedures listed above, more of them do not. The effect of therapy is often extremely discouraging. However, few of them die. Most of them after months of great discouragement lose their edema as a result of therapy or by spontaneous diuresis. They may then clear up completely. Some progress into a typical glomerulonephritis. Some merely show a persistent albuminuria for years.

### VASCULAR HYPERTENSION AND CHRONIC VASCULAR NEPHRITIS

Let us now turn to the third type of disease, vascular hypertension and chronic vascular nephritis. You are all familiar with the general lines of treatment and it will be unnecessary to do more than sketch certain important features.

What are you going to do with a business man of forty-four who, in considerable distress of mind, comes to you because an insurance examination has disclosed a hypertension? A careful history reveals that, apart from a nervous temperament and a tendency to worry, he has no symptoms. An equally careful examination shows that, with his blood pressure of 190/100, there are only slight changes in the retinal arteries, a slightly enlarged heart doing a perfectly good job, and a negative urine.

Such a patient requires very careful handling preferably by the intelligent family physician. He knows not merely the patient but also his family and the extra-medical problems that play such an important part in the patient's condition and in his management. Tactless, enthusiastic, ultrascientific treatment at this stage may bring about irreparable damage. He may become what I choose to call a "blood pressure addict", living the rest of his life under the cloud of his hypertension.

A man of this sort needs to be set straight and calmed down from the shock of finding that he has high blood pressure. It is often wise to belittle the importance of the discovery and to indicate to him that he "merely needs to make the wheels go round a bit more slowly. Without doubt his circulatory defect will take care of itself." By no means should you at this visit do more than to try to gain his confidence and get him calmed down. No program for reduction of his pressure should be instituted and no medication ordered except a mild sedative like bromide or phenobarbital. If the patient has obviously been working too hard a bit of a vacation, golfing or fishing, or a boat trip is often most helpful.

After this he should be seen only often enough to be sure that the vascular disease is not progressing rapidly to involve the heart, kidneys, brain, etc. Under no circumstances should stress be laid on the height of the pressure. Figures for the pressure should not be mentioned. Lessened responsibilities, more relaxation, occasional vacations, plenty of rest and a moderate amount of outdoor exercise to maintain good cardiac and general body tone should be encouraged. If he is overweight judicious reduction often helps. As far as diet is concerned he need only watch out for the size of the meal and avoid any excessive amount of fluids. In fact, excesses of all kinds are taboo. His motto should be the very simple one of "Moderation in Everything".

But you ask, "Aren't you going to try to reduce his pressure?" Theoretically you should. Practically it depends on many factors, such as the height of the pressure, the condition of the arteries and heart, etc. If you succeed in getting your patient to work less and rest more, to worry less and play more you will have brought about far more reduction of his pressure than by all the other methods of direct action. Frankly, most of these do not work satisfactorily. With the exception of the sedatives and therapy necessary for treatment of symptoms, I have practically discarded them all. To save time let me merely innumerate the various procedures that have been tried and found wanting. All the nitrites, bismuth subnitrate, the iodides, benzyl benzoate, theobromine and allied drugs, atropin and the various belladonna derivatives, garlic, akineton, calcium salts, mistletoe extracts, potassium sulphocyanate and the various cholins, organ extracts such as liver, pancreas, ovarian and thyroid, high frequency currents, venesection, lumbar puncture, low protein diets and

Allen's low salt régime. No doubt a fall in pressure may follow any of these procedures but I am thoroughly convinced from a considerable experience with these patients that no great and permanent reduction occurs and that the effects produced are mostly those of psychotherapy.

In the last few years various attempts have been made to reduce excessive pressure by such procedures as thyroidectomy, unilateral adrenalectomy and denervation of an adrenal, renal denervation, extensive removal of spinal nerve roots and ganglionectomy, x-ray of the pituitary, etc. With the exception of adrenalectomy for an adrenal tumor and x-ray of a basophile adenoma, the best that can be said for them is that they are either of no value or are still in the highly experimental stage. Some procedures like those of Adson and of Page do hold out hope for the future.

Of all the remedies administered to patients with hypertension the most successful are without doubt the various sedatives from bromide to chloral. Most of us are forced to rely on these and the tactful organization of the patient's activities.

Certain symptoms, however, do require and do respond to specific treatments. The morning headaches, dizziness and other head symptoms often respond to one of the following procedures, hot coffee on awakening, a saline purge, aminophyllin or phylicin with or without phenobarbital, intrait de gui, venesection, and the dangerous sweat bath.

The treatment of the various cardiac difficulties are beyond the scope of this article. It is sufficient to say that hypertension offers no objection to the use of digitalis if and when it is indicated.

In brief, the management of this type of patient throughout the slow or rapid progress of his arteriolar disease is one that still depends largely on the intelligent and tactful regulation of his activities, the relief of symptoms, and the treatment of the various complications that arise from his vascular disease and the ischemic effects resulting therefrom.

In only 10 to 30 per cent of patients with vascular hypertension does the ischemia become marked enough in the kidneys to be a matter of importance. In these, renal insufficiency becomes evident and we have chronic vascular nephritis. I need not dwell on the treatment of such a condition because, for all clinical purposes, it is the same as that just described for vascular hypertension plus the treatment of the progressive renal insufficiency. Much of the latter was suggested in our discussion of uremia. One word of caution is, however, pertinent. Keep sharp watch on the extra-renal lesions, the small vessels in the eyes, the condition of the heart, etc. Even though definite renal insufficiency exists, death is more probable from the heart or the brain.

In closing let me leave with you these thoughts. The intelligent management of any disease depends on a tripartite knowledge, (1) knowledge of the general course of the disease, (2) knowledge of the particular patient and (3) knowledge of your therapeutic weapons. In no disease is it so necessary to utilize such a trinity as in Bright's disease.

One must appreciate that what we call Bright's disease is a group of diseases at times only distantly related. Of more practical importance is the fact that there is not one form of Bright's disease which is pathologically or clinically entirely renal. Frequently the extra-renal lesions and problems are far more important than those of the kidneys.

In no disease is it so necessary to know your patient thoroughly as it is in the hypertensive types of Bright's disease. You can't run him through one of these modern docketing machines and give him a stereotyped therapeutic formula on a card. Would you prescribe frequent vacations for the man who is working for a wage and has a young dependent family to care for? Would you offer him one of these extensive and risky sympathectomies? Of course not. The more you know of the patient and his environment the more intelligent will be your treatment.

Finally, the proper management of the patient demands a knowledge and a conservative evaluation of all the available therapeutic measures, together with their appropriate application to the particular problems of your particular patient.

# The Massachusetts Medical Society

## PRESIDENT'S ADDRESS*

BY WILLIAM H. ROBEY, M.D.†

THE high honor of serving as President of the Massachusetts Medical Society carries with it the privilege of a close range view of the problems of the rural, the small town and the city practitioner; the opportunity for a wide variety of experiences; and the means of gaining a new sense of the solidarity of our profession. Fortunate is he who has a second term in office, for the first year is spent very largely in learning to walk and the next, in efforts to improve one's gait. In 1933 there were many moot questions, many serious issues before us, but within the past twelve months we have been confronted by aggravations of these questions and issues, as well as by a series of new and complicated problems, so that the activities of the second year have far exceeded those of the first. The new social philosophy, the kaleidoscopically changing economic theories and experiments which tend to disrupt the traditional modes of thought and behavior, have had their effect on us in ways that we have been no more prepared to cope with than has any other group or profession, but in the midst of this confused and confusing welter of thinking, we continue to stand for the preservation of those unchanging basic principles without which no such society can maintain its existence: our ethical standards, our unremitting endeavor for a higher quality of service, and our acceptance of the best scientific achievements. These must suffer neither violation nor diminution in the process of working out a solution of practical problems involving decisions upon the course we are to pursue in the immediate future. If anyone ever thought that the medical profession had crystallized in a fixed form, the developments of the past decade and especially of the past two years have brought a clear realization that the trend has steadily been toward disarranging the established pattern; radical measures and half-digested methods have been promulgated, some of which are totally out of harmony not only with our principles, but are, I believe, contrary to the best interests of the public whom we serve. So serious is the situation that the American Medical Association and many of its component societies have called special sessions of their governing bodies to discuss and, if possible, to clarify it. Yet while it is much discussed it is very little clarified. When the late Dr. W. W. Keen began his oration at the Pasteur Centenary he said that for two months he had read, thought and talked about Pasteur until he felt that he was thoroughly pasteurized. To-day one reads in almost every medical journal, daily newspaper and current magazine, articles on health insurance and social medicine until one feels that one is being thoroughly socialized. The subject however is an old one; the depression has merely fanned the smoldering embers into a flame as yet not very bright here, but bright enough to make clearer to us conditions as they exist in Germany, Austria and other European countries where health insurance has been in force for years. The mass of reports being received does not express unanimity of opinion as to its success anywhere. Henry Sigerist, Professor of the History of Medicine at Johns Hopkins University, says, "The German sickness insurance is far from perfect. It could be greatly improved, as no doubt it will be. Deficient as it may be, it has served the peoples' health well for half a century and no European country that has adopted a sickness insurance plan could ever afford to abandon it." On the other hand Gustav Hartz, a prominent labor leader in Germany who is vouched for by the Bureau of Public Relations of the Medical Society of the State of New York, makes enlightening and even appalling statements based on a long and intimate relation with the workings of the plan pointing out the misuse of so-called benefits to the workman, the fact that doctors are driven to mass practice, the temptation to trickery, and the colossal administrative expense, for sickness insurance is bound up with accident, old age and unemployment insurance, all of which Hartz says proved to be "Germany's greatest inner trouble in the time of her hardest social crisis." Not only is the cost excessive but time lost from labor is often equally so, due in part to malingering and in part to the physician who needlessly protracts treatment. The total number of days of sick benefits in Germany has increased two and one-third times since 1913; and its cost of administration has almost trebled so that it has become necessary to add a state subsidy, as well as to decrease the time and amount of benefits 40 per cent, and in periods of stress by even as much as 70 per cent. In Austria the income level has been gradually raised until the well-to-do are allowed to insure, and the doctors, paid absurdly low rates, must assume their care. Furthermore the methods of examination and the form of treatment, as in Germany, are definitely stated in a book of regulations for insurance

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purposes. In both countries dissimulation and hypochondria are bred and the prescribing of medicine becomes immoderate.

The *American Medical Association Bulletin* published in March 1935 an article by Dr. P. Dally of Paris which gives the details of the French system since 1930 when the social insurance law became effective after ten years of study. The salaried worker or assured has the right to select the bureau to which he wishes to belong; he and his employer each pays one half of the cost, no financial aid being given by the government, but it does verify the accounts. The patient may choose his own physician and may change to another in case of dissatisfaction. The attending physician is free to prescribe any medication or apparatus needed for the individual case; the insured himself pays the physician a fee mutually agreed upon, and although there is no fixed fee-table for medical services, the payment for illness and drugs seems simple and satisfactory. The officers of bureaus have the right to check as far as possible any attempts at fraud on the part of the insured or his physician, and unscrupulous physicians may be prosecuted. The insured must allow inspectors, civil and medical, designated by the distributing bureau, to verify the character and genuineness of his illness. No marked improvement in the organization of health work has been accomplished in France; it has failed to organize hygiene or to aid medical progress, but the principles, on which the medical profession has always insisted, have been incorporated in the law, viz., free choice of a physician, liberty of prescription of every drug indicated by the illness, and direct payment by the patient; one recognized and important advantage is the feeling of security in case of illness. Statistics show that everywhere on the continent there has been a rising cost for both worker and employer to meet the social insurance demands.

In Great Britain where the law of 1911 was succeeded by an improved enactment in 1924, it is compulsory for all manual workers, and for non-manual workers earning less than £250 a year to have sickness insurance; these combined groups constitute over a third of the total population and there are 300,000 more who have some sort of voluntary insurance. Nearly half the British physicians are engaged in insurance as well as in private practice, and although lay managers are now prohibited from entering into the business of building and conducting medical institutions, they still exercise other functions of control. The desire of the insured "to get something back" encourages an increase of minor and imaginary ailments with a consequent upward tendency in morbidity and a consequent growth of suspicion and indifference on the part of many doctors whose duties are so time-consuming that the seriously ill often do not receive proper attention. The British system, like the French and Scandinavian, has avoided some of the more glaring defects which exist in Germany, but there is present the same excessive use of medication, the same increase in neuroses, the same rising of claims for sickness benefit. The answer to the American Medical Association questionnaire is to the effect that the character of medical service in England has not been markedly changed; while some doctors may have become more slipshod and a good deal of perfunctory work is done during epidemics, the insurance authorities make the claim that others, in consequence of an assured income, have established laboratories and are giving improved service; but these are probably exceptions, for the majority have less time for and less interest in research.

In foreign countries not only is the population homogeneous, or nearly so, but there is one central government which adopts and enforces legislation. Between these European units and our forty-eight states with their heterogeneous populations and their widely divergent conditions no true parallel can be drawn. A Federal health insurance law is unthinkable —or seems so to most of us—and no two states are in agreement, as is evident from a study of the suggested plans. A few instances are herewith submitted showing what is being done in this country.

The Michigan State Medical Society has expended a large sum of money in studying conditions abroad and in its own state and has published elaborate documented findings, but it has decided to wait until the plans of President Roosevelt and his Committee on Economic Security have been completed and made public before it makes any recommendations. It considers, however, that the outlay has been justified, since it occupies the position of knowing more about its state and itself than any similar society in the country. Other state medical societies are going forward in testing different methods of providing medical care for, and a means of payment by, the low-income group.

New York has been very active in many departments of medical economics, and what it has been doing is worthy of greater notice than is possible here; the hospitalization bill which was signed by the governor in 1934 was put into operation a few weeks ago and includes in its administration fifty per cent of the beds in more than fifty hospitals. The plan proposed by the County Medical Society of New York to inaugurate low rate payments has met with such slight response from the members that action has been deferred until fall. The Medical Society of the State of New York has gone definitely on record as to its position relative to the

major question. Its President at Albany this year said, "The acid test of experience condemns compulsory health insurance schemes wherever they have been tried. The medical profession disapproves of the proposed law because this method of handling medical care is damaging to the patient and disastrous to the doctor. Physicians as a class are better qualified to speak than any other group, as to the effects of a compulsory health insurance law on the community, and the Medical Society of the State of New York, representative of the physicians of the state, rejects the project because it will not work, and because what it will bring to the community is quite the opposite of the expectation of its well-wishing proponents."

The Physicians Equity Association of America with headquarters in New York is launching a campaign, the merits of which there has not yet been time to investigate; one of its chief aims is to forestall socialized medicine through measures to correct abuses in medical, surgical and other departments affecting public health, but we shall soon know more of this movement and to what extent it is being sponsored by the best men in the profession.

In the *Journal of the American Medical Association* for May 4, 1935, the disturbing situation in California has been given in detail by Dr. Morris Fishbein under the heading: "California and Sickness Insurance." The report indicates that physicians bear the heaviest burden for the sick, giving freely of their services to those unable to pay and lowering their fees to those able to pay only partially. The physicians carry 70 per cent of the total amount due for services to families with an annual income under $3000. A study of the situation in California indicates to anyone having any understanding of our American political system the difficult path which the leaders of medicine in that state are treading and it is hoped that they will find their way out before their profession is engulfed in a régime which will lower the standards of medicine and the quality of medical care. As Ray Lyman Wilbur says, "There is no possibility of building up an artificial medical robot that can provide care by dropping in a piece of money."

An example of the effect of governmental control of the practice of medicine by lay boards has been observed in New Hampshire's care of the indigent sick. Instead of using the long-established welfare and social agencies as recommended by the State medical society, new directors and subdirectors with an army of clerks were appointed to manage the medical care of the indigent. New to the work, much time and money were consumed while they learned their duties, and, in addition, these lay directors exerted their authorized but inexpert control over the practice of physicians. If a special test was required to arrive at a diagnosis it could not be made until the permission of the local office director was granted. If in his, or more frequently, her, opinion, the test was unnecessary it was not allowed and the physician had to arrive at a conclusion with less accuracy. In one area a physician was favored by the director and therefore had many patients a month with their accompanying fees, while his nearby colleagues were ignored. In some instances physicians repeatedly carried their treatments to the full limit of fees in every case. Pressure on the part of the State medical society was necessary before the two latter injustices were eliminated. Allusion was made last year to the situation in New Hampshire, but these additional phases seem worthy of mention as medical insurance is being forced more and more upon our attention.

The problem of the care of the indigent sick in our own state and the unfair burden placed upon their physicians is one that is in need of prompt solution. The Society is not unmindful of what some of its Fellows are undergoing while the present situation continues and although we have urged that welfare organizations meet this charge through federal funds, as they meet the cost of other necessities of life, our efforts which seemed about to be realized in Federal Regulation 7 were doomed to failure.

What is Massachusetts doing and what are the activities of the Massachusetts Medical Society in studying sickness insurance? Proposed legislative action has appeared here sporadically since 1916 but has not yet aroused public interest to any marked degree. The last and most voluminous bill for the establishment of laws governing health insurance was introduced this winter but it was merged in another bill on which no action has yet been taken. Indubitably the movement toward governmental control through various forms of social insurance has been gathering momentum; the economic program has developed into a whirlwind of innovations, but it is not likely that the medical profession in Massachusetts will be swept precipitately into any radical change, though it has begun to gird up its loins and prepare to meet such measures as it knows to be fundamentally unsound and unwise.

In order to study the adequacy of medical care in Massachusetts our Committee on Public Relations has sent out a questionnaire to each Fellow of the Society and at this time slightly over one thousand answers have been received. While they convey some idea of the relation of the physician to his patients, the questionnaire naturally does not bring out the attitude of the patient toward the physician. It has been suggested by Dr. H. L. Lombard that school teachers might be employed during the summer to

interview the residents of certain areas and thus we might obtain further data from a cross section of the state.

The Public Relations Committee has had an enlarged program this year and by its greatly increased activity, has gained power and influence both within and outside of the Society, but I feel strongly that more intensive work on the matter of social insurance should be undertaken immediately, that a method should be found for an interpretation of the many forms in which this question of outstanding importance is being advocated, and that its implications and its effects should be plainly set forth, for there are still many Fellows in every part of the state who have not yet awakened to its possibilities and its probabilities. If we are to have unified action, every one must have accurate and simplified information from an authoritative source. A necessary factor in speeding up this process is the prompt coöperation of all district societies through their subcommittees.

In addition to what is being done by the Public Relations Committee some informal surveys of general conditions have been made in order to secure further data on which to base discussion when subsequent legislation is proposed, as unquestionably it will be; these surveys have revealed that most of the doctors have as much work as ever but receive much less for it than formerly. In some rural districts, the continued care of patients who have lost their jobs or their incomes has meant the impossibility of collecting any fee and we know of excellent physicians who as a result are facing a financial stringency almost as acute as that of those they have treated.

In all plans for collective methods of giving medical care to the self-respecting low-wage earner through group practice, pay clinics, or health insurance with or without governmental control, we must remember that the physician is the key to the situation and there is no doubt that he should lead in devising and developing the proper procedure for a better distribution of medical care and its accompanying costs.

Let us hope that physicians throughout the United States will see their responsibilities for leadership in their own sphere and not delay until their fellow-citizens force them through undesirable legislation into methods of practice which are alien not only to their canons but subversive of what they believe to be the greatest good to the greatest number. This procedure must not have recourse to special pleading nor be charged with class consciousness but should be based on the soundest principles of public welfare and we should not limit ourselves merely to the financial and economic aspects but should also give thought to the danger of losing the finer type of young men who will no longer be drawn toward a career where they will be circumscribed, regimented and subjected to bureaucratic control, and to the danger of losing that invaluable relationship between physician and patient that often transcends in importance the care and cure of the purely physical ailment.

It is conceivable that some type of sickness insurance may be evolved from which advantage will accrue to doctors and to the dependent sick, but the safeguarding of the interests of both will require a most exhaustive study which should be undertaken only by those properly equipped to weigh and pass judgment on every measure proposed.

Some twenty-five years ago I suggested to a group of Boston doctors the advisability of the establishment by county medical societies of their own collection agencies, the use of which would have been entirely optional by its members; it would have made possible the keeping of financial records of patients in each community, the handling of unpaid accounts through the medical organizations, and the maintenance of a clearing house where the names of non-paying patients would be recorded. The proposition met with no support as it was felt that medical societies were exclusively educational and should be kept free from business involvements. The question is now forced upon us whether by adhering to the original purpose we can deal successfully with the economic conditions that are every man's concern, and whether we can continue to consider the word "educational" as applicable only to matters professional. In the South and Southwest, county medical societies are operating business agencies, but as far as I know the idea has not taken root anywhere in the North and East; personally I believe the county medical societies have a function to perform in this line, but even more do I believe that if they would assume the responsibility of making fee tables for the low-wage-earning groups in their particular areas and would have at their headquarters advisers in the management of such business problems as are involved in everyday practice, we would be taking steps to forestall commercial and political control and would be in a better position to combat the encroachments of autocratic legislation. A number of plans have been formulated and are available through the American Medical Association for any society which is considering the introduction of such a scheme, and these can of course be adapted to the needs and desires of any community—that there would be a period of trial and error should not be a deterrent. A mild example of the manner in which the layman could get for himself what the inertia of physicians failed to furnish was shown in the establishment of the Life Extension Institute. Formed by laymen for the routine and systematic examination of subscribers at a fixed rate as a preventive against the onset of disease, it enabled them to secure something which many physicians could not be induced to give their regular clientele, though a corps of repu-

table medical men was readily obtainable for salaried services. When our profession heard of the Institute's success, and really saw the public need which it filled, a wave of resentment broke over our ranks, and efforts were made by some of the established medical organizations to loosen its grip. It really did the profession little if any harm and it should have aroused us to a growing need. Great as has always been my admiration for our profession and much as my respect for it has deepened during this term of office the former attitude toward the Life Extension Institute indicated that some of us were acting as though we were inclosed within a walled city and that we had been unwarrantably attacked, instead of realizing that it was ourselves who had failed in taking a wise initiative and in recognizing that we must now follow where we should have led. The practitioner still has it in his power to do more than care for the cases of illness which occur in his practice. He can send for his patients at stated intervals to make physical examinations and he can offer pertinent suggestions about the physical findings; he can follow up cases of infection to discover the onset of sequelae upon the circulatory and other organs; he can inquire into the activities of his middle-aged and elderly patients and guide them in the selection of their sports and foods. All of these ministrations give satisfaction to the patient and to the physician far in excess of the caring for the hopeless end-results of certain illnesses and indiscretions. Vaccine immunology as well as therapy offers many opportunities for the physician to practise protective medicine. It is my belief and experience that people like this protective attitude on the part of their regular medical attendants; we have certain well-tested methods which it is advisable and desirable that people understand and accept, but they cannot understand them, nor are they ready to accept them unless they are explained by those who, because of their training and their status in the community, are in a position to give information that is of vital significance. Charlatans use every specious way of acquainting the public with their panaceas or their theories, employing means which to us are as unethical as they are obnoxious, and we are so repelled by their blatancy that we are often silent when we should speak. This winter when the bill for the special registration of Chiropractors was being heard before a legislative committee, one of the representatives said that he could not feel that the medical profession was deeply interested because his own physician who was also a close friend had never taken the trouble even to mention the subject. The representative would have welcomed a clear explanation of the matter and could have come to the hearing with useful information from one whom he respected, instead of assuming general apathy on the part of the doctors of the state.

A digression at this point, which may not be wholly irrelevant, leads to a re-emphasis of what seems to be in constant need of repetition. The average physician is a strong individualist who has developed to a high degree a sense of service; he is interested in disease, in its course, its treatment, its prognosis, and its etiology, but not sufficiently even yet in its prevention, and that means a limitation of the scope of his service, for which there is little excuse. Teachers in medical schools agree that one of the most difficult tasks is to interest the undergraduates in preventive medicine. The student is so preoccupied with the picture of disease, its various physical signs and their interrelationships, the drug, the serum, the extract, the vaccine, the surgical therapy, and the probable outcome, that the less dramatic but equally important matter of what might have been done to avert the disease fails to engage his attention as seriously as it should. So, often the doctor is much more concerned about what to do for a case that is before his eyes than in how the condition might have been prevented. He responds promptly to the call of sickness and devotedly carries out the successive steps in its management and then, when the results have been achieved, he disappears, feeling that his duty has been accomplished. But both prevention and follow-up are possible if a relationship of confidence and understanding has been established.

To return to the work of the Massachusetts Medical Society. All the committees have done admirable work during the year, but as it is impossible in the allotted time to make even a brief résumé of their work, I commend their reports to your notice for careful reading.

The Committee on State and National Legislation has given a full and excellent account of its activities during the last session of the General Court, but I feel that further mention should be made of House Bill 756 which was sponsored by the Massachusetts Medical Society, and with the substance of which most of you are familiar. It asked for one change, viz., that medical schools in this and other states, whose graduates apply for the right to practise in this Commonwealth, should have the approval of the Board of Registration. This met with opposition from the Legislative Committee on Education who argued that medical schools that had been granted charters under which they were entitled to confer degrees should not be subjected to investigation even though it was clearly demonstrated that their systems of education fell below modern accepted standards. There seemed to be a belief that we were trying to close certain substandard schools in this state notwithstanding the definite statement that our sole object was to improve the quality and raise the grade of medical education in order that all should reach the level of the Board's requirements. We also pointed out that there is a

steady progress in medical education with which all schools should keep pace and that which was satisfactory a few years ago may be insufficient or even obsolete now, and that the public must be assured that all physicians to whom the care of the sick is entrusted have received adequate training and preparation. The Legislative Committee showed us every consideration, but withheld full approval of our bill; however we made a sufficiently strong impression to be invited to a special hearing a few days later. Mr. Estabrook (a house member) introduced an amendment to permit the Board of Registration to pass upon the qualifications of medical schools outside of Massachusetts whose graduates might apply for the right to practise here, but he refused to include the power of investigating or disapproving of chartered schools within the state. The majority present objected to this amendment but the Legislative Committee felt that it offered the only chance of reporting the bill favorably. In case the amended bill should fail, our legislative agent introduced a substitute bill calling upon the Legislature to permit the formation of a special unpaid commission to study the problems of medical education in Massachusetts. Eventually this proposition proved acceptable and the first bill with the Estabrook amendment was merged in the bill for the appointment of the commission and now awaits the action of the Senate and the approval of the Governor. Our Commonwealth has one of the least creditable practice acts of any state in the Union but the Massachusetts Medical Society has taken on its shoulders the task of improving the act and intends to carry on its campaign for the achievement of higher standards. We remember that President Eliot as long ago as 1891 thought that there would be short shrift for incompetent practitioners if the sufferings inflicted on the poorer and less intelligent portions of the community, and the economic losses imposed on the whole community, could be brought home to American legislators, in spite of the inevitable interference with so-called private rights; let us hope his optimism will ultimately be justified.

It has been in my mind for some time that the appointment of a reference committee in the Council would be of as distinct advantage to our Society as it has proved to be to many other large societies. My chief reason for urging this is that occasionally an important resolution is proposed, the purport of which is perfectly clear to the group which has had it under consideration and who expedite action upon it without time having been given for its full understanding by every member of the Council. If it should not be your pleasure to create a reference committee, it should be the rule that all measures be referred to the particular committee in whose department the matter properly belongs, before being acted upon by the Council.

If to many of you this paper seems devoid of new ideas and of new information, its only excuse is the conviction that there may be some who will be stimulated to take a livelier interest in medical economics and in legislation affecting our profession, and who therefore will help to spread a better understanding of current events as they touch those points. It is only by precept upon precept, line upon line, here a little, there a little, that such education is accomplished. Most of the data have been culled from sources available to you all. "I have brought nothing but the thread that ties them together."

No words can express our gratitude for the efficiency, the tireless energy and the unfailing thoughtfulness of Dr. Shedden and his colleagues on the Committee of Arrangements; every detail has been given careful and painstaking attention, and that has meant a whole year's work and a heavy draft on the time and strength of busy practitioners. If the ladies of our families have enjoyed the social program, the first credit goes to Dr. Shedden for having realized the advantage of a Women's Committee in Boston; to it, too, we are deeply indebted for the many delightful events which we are not permitted to share but from which we were getting pleasure vicariously; it has added much to the success of our meeting that the amenities have had a larger place than ever before. Nor can I terminate my remarks without expressing my deep appreciation of the work of our Editor, Dr. Bowers, who by raising to a high plane The *New England Journal of Medicine* has made it one of the great publications of the country. Personally I owe him much for his constant willingness to assist the President. Also, I am not unmindful of the importance of the plan to secure an all-time executive who will take over some of the details of the headquarters office and thus further the work of our Society—Dr. Lee and his associates in the Committee on Publications have given much time and thought to this necessary adjunct.

In closing, may I thank you all again for the inestimable privileges that you have given me during these two years which have brought enlarged experience, a broadened outlook, and an increasing acquaintance among a group that I am sure cannot be surpassed anywhere. Nothing has been more gratifying than to see how the Society has grown to be a more vital factor in the lives of the doctors throughout the whole Commonwealth as its functions have developed and become more effective, and nothing could have been more cordially coöperative than the response to calls for service and study. May the Massachusetts Medical Society go on to finer and better things in the coming year and become a stronger force under its new leadership.

# PORADENOLYMPHITIS*

BY LEWIS A. GIFFIN, M.D.†

## Diagnostic Criteria

In 1933 H. S. Stannus (1933a) published a monograph entitled "A Sixth Venereal Disease" which established the fact that climatic bubo, lymphogranuloma inguinale, esthiomene, some cases of chronic ulcer and elephantiasis of the genito-ano-rectal region, and of inflammatory stricture of the rectum are different manifestations of a single disease which he called "poradenolymphitis".

Frei (1925) found that the intradermal injection of small quantities of diluted, sterile pus, aspirated from a fluctuant bubo, after attenuating or destroying the virus by heat, will produce a dome-shaped area of induration in persons who have, or have had, the disease. The test is performed by injecting 0.1 cc. of a solution of the pus which has been diluted one to five or six times with physiological salt solution. Before use, this antigen is heated to 60°C. for two hours on one day, and one hour on the following day, and then tested for sterility. Failure to obtain a reaction in a clinically characteristic case may be due (1) to the use of an inactive antigen; (2) the phenomenon of anergy in the presence of another disease (e.g., active tuberculosis and syphilis); (3) rarely, to anergy alone; or, (4) sometimes the patient does not develop the power to respond to an active antigen until the disease has reached a certain stage in its evolution such as occurred in cases reviewed by Stannus (1933a) where the reaction was negative until the periadenitis had involved the overlying skin. The reaction should be read on the third day. False positives are due to the early or inaccurate reading of the reaction, or to the presence in the antigen of extraneous matter due to faulty technic in preparation.

Stannus (1933a, page 60) says, "The histological features have been considered by many to be pathognomonic, but others believe that they cannot always be differentiated from tuberculosis. If not pathognomonic they are certainly very characteristic". The virus of poradenitis has an "exquisite predilection for lymphatic tissues", and always calls forth in them a specific and characteristic reaction, even in the tissues of experimental animals. The most characteristic single feature is seen in every clinical stage of the disease from the original adenitis to the pudendal elephantiasis, and even in the rectal stricture. This consists of little foci somewhat resembling tubercles. These foci are composed of young granulation tissue which is surrounded by a wall of lymphocytes, and in the periphery are seen epithelioid formations and giant cells. (See also: Stannus, 1933b; page 425.)

The clinical evidence alone is not sufficient to make a positive diagnosis, except perhaps in the case of genital elephantiasis associated with ano-rectal lesions, the so-called "genito-ano-rectal syndrome" which, in the opinion of Stannus (1933a, page 185) is "unmistakable. . . . truly in all its parts essentially a manifestation of an infection with the virus of lymphogranuloma inguinale". As to the other manifestations of the disease, a subacute inguinal adenitis without other demonstrable cause should always give rise to suspicion. When associated with the typical genital lesion, the suspicion is better grounded, especially if there be a history of suspect coitus two to three weeks before. Stannus believes that inflammatory stricture of the rectum is a common manifestation of the disease, but quotes numerous investigators who say that gonorrheal, tuberculous or syphilitic proctitis may produce a lesion which is clinically similar. Moreover, Stannus (1933a) has pointed out that poradenolymphitis is frequently associated with other venereal diseases to which its manifestations may be attributed erroneously.

Probably the first cases of poradenolymphitis reported in the United States were those described by Hansmann (1924) from the Peter Bent Brigham Hospital under the title "Non-Tuberculous Granulomatous Lymphadenitis".

## Report of Cases

Our attention was called to the condition by seeing the following typical case.

Case 1. *D. C., No. 77049.* A thirty-two year old Negress entered the Fourth Medical Service of the Boston City Hospital on December 16, 1934 with the symptoms and findings of pyelitis, which cleared up subsequently under treatment.

The patient had been born in Alabama and had come to Boston at the age of nineteen. At the age of sixteen, she had a vaginal discharge and some lower abdominal pain, but has forgotten the details. The inguinal glands were never noticeably swollen. At seventeen or eighteen the patient began to become progressively constipated. Recently, she has been able only to have thin watery movements and she has had to take laxatives twice a week for the past fourteen years. Occasionally, she has had blood-streaked stools, but they have never been tarry. There has been no recent loss of weight.

Physical examination elicited a soft systolic murmur at the cardiac apex, pain on deep palpation in the left costovertebral angle, and there were a few pea-sized glands palpable in both groins. Rectal examination revealed a smooth constriction of the

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rectum, around which there was very little induration or fibrosis. The finger could not be inserted more than 2 to 4 cm. beyond the anal opening.

The Kahn test was weakly positive on one occasion. Two subsequent Kahn tests were negative. The Hinton test was twice positive. One Frei test was reported positive with an antigen of questionable reliability. A subsequent Frei test with an antigen of proved reliability was positive.

On January 11, 1935, a manual dilatation and division of the rectal stricture was done under novocaine spinal anesthesia. The patient made an uneventful recovery and was discharged the following week.

It was then called to our attention that a case of rectal stricture at the Boston City Hospital had been classified a year previously by Dr. W. B. Castle as due to poradenolymphitis. This case showed the following:

CASE 2. *M. D., No. 687743.* A twenty-one year old unmarried Negress entered the Second Medical Service on October 23, 1932 complaining of symptoms consistent with pulmonary tuberculosis. This diagnosis was confirmed by physical signs, x-ray of the chest, and the finding of tubercle bacilli in the sputum. Besides the lung condition, the patient had a fibrous ring just within the anal sphincter. Vaginal examination was negative. Proctoscopic examination showed a ring-like constriction two centimeters in diameter. Above this, the intestinal wall was granular, irregular, and somewhat thickened, and the mucosa was gray and covered with mucus but not ulcerated. The Kahn test was negative and a vaginal smear was negative for specific venereal organisms. The Frei test was not performed because a reliable antigen could not be secured at that time. The rectal stricture was manually dilated on November 11, 1932 and again on November 21, 1932.

Records kindly made available by the Boston Dispensary showed that the patient had been treated in Baltimore two years previously by incision and drainage for bilateral inguinal adenitis. When seen six months later at the Boston Dispensary, she had a small sinus in the left groin from which thick, yellowish pus exuded. Hinton and Kahn tests were positive at that time but the Wassermann test was negative. Pus from the cervix was negative for venereal organisms.

During the following year, the patient was given intensive antiluetic treatment, but despite this she developed constipation and a rectal protrusion which itched, bled, and discharged pus during the latter ten months of this period. A "condyloma" was then excised. Two months ago, the Boston Dispensary Rectal Clinic noted that digital examination showed an atresia within the internal sphincter hardly admitting one finger.

CASE 3. *A. W., No. 722739.* A thirty-six year old Negro entered the Fifth Surgical Service on October 23, 1933 complaining of bilateral swollen and tender inguinal glands of twelve days' duration. There had been suspect coitus three weeks before. There were no genital sores and no signs or symptoms of gonorrhea. The Kahn and Wassermann tests were positive. The glands were incised and drained, and the patient discharged.

He reëntered three days later. Both groins were still draining. The temperature was up to 102°. The patient was then treated on the Service for Tropical Diseases with intravenous injections of sodium antimony thioglycollate. He received 20 cc. of a 0.5 per cent solution three times per week. Following the first injection, the patient had a marked chill and rise in temperature lasting three hours. After ten days, the temperature and pulse were normal, the discharge had practically ceased, the glands were not tender, and the patient walked without pain.

This case was diagnosed as lymphogranuloma inguinale. Unfortunately, the Frei test was not performed and there was no biopsy.

### DATA FROM HOSPITAL RECORDS

In an effort to arrive at the probable number of cases of poradenolymphitis that have been treated at the Boston City Hospital during the last ten years, a careful analysis was made of the records of cases admitted to the wards from January 1, 1925 to January 1, 1935.

*Benign Rectal Stricture.* Twelve cases of this condition admitted during the period were consistent clinically with poradenolymphitis. The case which follows has been summarized as an example.

*C. R., No. 565375.* A white male sixty-five years old, admitted July 5, 1928, complained of constipation for three years. Records of previous admissions showed that he had had bilateral inguinal adenitis five years before and was treated with incision and drainage. One month later, he had a recurrent right inguinal bubo which was incised and drained. Fourteen months ago, there was a yellowish discharge near the rectum and fecal incontinence, and a fistulous tract was excised. At that time, a stricture was found about 2 cm. above the internal sphincter. The stricture was dilated and a mass of soft tissue, which bled easily, was felt on the posterior wall of the rectum. Biopsy was reported "chronic inflammatory tissue".

*Elephantiasis of the Genitals.* There were four cases of elephantiasis of the genitals, in two of which the legs were to some extent also involved. Two of these cases were consistent with and two suggestive of poradenolymphitis.

*Inguinal Buboes.* Sixteen cases of inguinal bubo were associated with soft sores on the genitals which had been diagnosed as chancroid but without demonstrating the bacillus of Ducrey. All of these cases were consistent clinically with poradenolymphitis.

Six other cases of inguinal buboes were associated with a urethral discharge in which the diagnosis was gonorrhea, but this diagnosis was not confirmed by demonstrating gonococci in the pus. These cases could have been poradenolymphitis either alone or combined with a Neisserian infection.

There were forty-three additional cases of inguinal adenitis or bubo in which, despite careful search, no evidence of venereal infection or of tuberculosis was found and there were no scratches, abrasions, or sores on the legs. In three of these cases, a culture of the pus from the bubo was sterile.

In the light of present knowledge, it seems very probable that most, if not all, of the cases

classified above would be diagnosed to-day as poradenolymphitis. Some of the data from the records regarding these cases are tabulated below.

tient Department during the same period.

Further work on poradenolymphitis is in progress at the Boston City Hospital and will be reported upon later by others.

DATA FROM THE RECORDS OF THE BOSTON CITY HOSPITAL, JANUARY 1, 1925 TO JANUARY 1, 1935

| | Diagnosis Recorded | No. of Cases | M. | F. | Colored | White | Clinical or Serological Lues | P. H. of G. C. | P. H. of Chancroid | Average Duration |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) | "Benign rectal stricture" | 12 | 5 | 7 | 4 | 8 | 3 | 3 | 0 | 3.3 yrs. |
| (2) | Elephantiasis of genitals, or genitals and extremities | 4 | 3 | 1 | 2 | 2 | 1 | 2 | 0 | 1-2 yrs. |
| (3) | Inguinal buboes with genital soft sores, without demonstrating B. of Ducrey | 16 | 14 | 2 | 2 | 14 | 4 | 4 | 0 | 6 wks. |
| (4) | Inguinal buboes with urethral pus, but gonococci not reported | 6 | 6 | 0 | 1 | 5 | 1 | 3 | 0 | 4 wks. |
| (5) | Inguinal buboes or adenitis not explained | 43 | 31 | 12 | 4 | 39 | 8 | 12 | 1 | 5.5 wks. |
| | Total cases | 81 | 59 | 22 | 13 | 68 | 17 | 24 | 1 | |
| | Per cent of Total | | 72% | 27% | 17% | 83% | 21% | 30% | 1.2% | |

PER CENT IN AGE-GROUPS OF CASES DIAGNOSED AS ABOVE

| Groups | 18-30 Yrs. | 31-40 Yrs. | 41-50 Yrs. | 51-60 Yrs. | Over 60 Yrs. |
|---|---|---|---|---|---|
| (1) | 3 cases—25% | 2 cases—17% | 0 | 2 cases—17% | 5 cases—42% |
| (2) | 1 " 25% | 1 " 25% | 0 | 1 " 25% | 1 " 25% |
| (3) | 11 " 69% | 3 " 19% | 2 cases—12% | 0 | 0 |
| (4) | 3 " 50% | 2 " 33% | 1 " 17% | 0 | 0 |
| (5) | 16 " 37% | 3 " 7% | 8 " 19% | 14 cases—37% | 2 cases— 5% |
| Total | 34 42% | 11 14% | 11 14% | 17 21% | 8 9% |

## COMMENTS ON DATA

Cases recorded as "benign rectal stricture" occurred somewhat more frequently in females than in males, twice as often in white people as in Negroes; the majority occurred from the ages of eighteen to forty years; and the average duration was about three and one-half years. The elephantiasis cases comprise too short a series to be of statistical value; suffice it to say that three quarters occurred in males, and there was an equal number of white and colored patients.

Of the combined cases of inguinal buboes, the great majority occurred in white male patients; an appreciable number had a previous venereal history; almost half occurred between the ages of eighteen and thirty years, and the average duration was five weeks. Of all cases totaled together, three quarters occurred in males, three quarters in whites, one quarter had had lues, one quarter had had gonorrhea, and slightly more than one half occurred below the age of forty years.

From the foregoing, it seems probable that there have been eighty-one cases of poradenolymphitis treated in the wards at the Boston City Hospital during the last ten years. It is possible that a larger group of ambulatory cases of this disease have been treated in the Out Pa-

## LITERATURE

Stannus (1933a and 1934) reviews the reported incidence and geographical distribution in the United States up to and including the first half of the year 1934. Since that time the following cases have been reported.

From New York City, Bloom (1933) described ten other cases, in addition to the one with cervical adenitis mentioned by Stannus (1934). The same author (1934) reported another eight cases of rectal stricture, five in females and three in males, confirmed by positive Frei reactions. Rostenberg (1934) presented a Frei positive case to a meeting of the Bronx Dermatological Society.

Cormia and Stokes (1933, Philadelphia) reported a Frei-positive case.

From New Haven, Connecticut, comes a description of seven Frei-positive cases, reported by Howard and Strauss (1934). In the appended discussion, M. S. Wien mentions two additional Frei-positive cases in Chicago; W. S. Grant, forty-five Frei-positive cases observed at the Provident Hospital in Chicago; E. B. Tauber a series of cases in Cincinnati treated with antigen cultured from Tyrode's medium, causing reduced skin sensitivity to the antigen. Later, from New Haven, Howard and Strauss reported

ten cases of the primary glandular symptom-complex, one case of anal condylomata, and five of rectal stricture in females, all Frei-positive. (Two or three of these cases overlap with those mentioned in their first article (1934), but are described in greater detail.) Sweitzer (1934) in Minneapolis, presented a Frei-positive primary glandular case to the Minnesota Dermatological Society. Connor (1934) presented four cases to the Cleveland Dermatological Society. Three of these were Frei-positive. The fourth was negative, a fact which was attributed to anergy in the presence of debility, as the case was characteristic.

From Chicago, Streicher (1933) reported nineteen cases with positive Frei reaction. Zeisler and Caro (1933) reported one case which was Frei-positive; and Thomas and McCarthy (1934) a similar case. Wien and Perlstein (1934) reported another five cases of the genito-ano-rectal syndrome in Negresses, Frei-positive. Lash (1934) reported a case of poradenolymphitis of the vulva coming on two or three years after a typical rectal stricture had been dilated, proved by characteristic biopsy findings and positive Frei test.

In an addendum to their (1933) article, mentioned by Stannus (1933a), Tomlinson and Cameron reported two additional Frei-positive cases observed in Omaha, Nebraska.

In San Antonio, Texas, Lehmann and Pipkin (1933) recorded seven cases with positive Frei tests, and from Ft. Smith, Arkansas, Goldstein and Byars (1934) described two cases showing positive Frei reactions.

## SUMMARY AND CONCLUSIONS

1. A brief résumé of Stannus's criteria for diagnosis of poradenolymphitis indicates that the clinical diagnosis should be supported by a positive Frei reaction performed with a reliable antigen or by characteristic histological findings.

2. An analysis of the hospital records of ward cases over the last ten years, disclosed eighty-one cases which may be classed clinically as poradenolymphitis with a high degree of probability.

3. Of these cases, 75 per cent occurred in males; 75 per cent in white patients; 25 per cent had had lues; 25 per cent had had gonorrhea; and over 50 per cent occurred during the greatest period of sexual activity. The average duration of the rectal strictures was three and one-half years, and of the inguinal buboes, five weeks.

4. Cases reported in the United States *since* Stannus's recent review (1934) are briefly reviewed from the standpoint of incidence and geographical distribution. The disease is still being recognized chiefly east of the Mississippi River and in the more densely populated areas.

## ACKNOWLEDGMENTS

I wish to acknowledge indebtedness to Dr. George Cheever Shattuck, at whose suggestion this work was initiated and without whose constructive criticism this paper would not have been written.

Thanks are offered to the Heads of the various Medical, Surgical, Gynecological and Skin Services at the Boston City Hospital; and to the Boston Dispensary, through whose courtesy the records were made available.

I am indebted also to Dr. T. Scott of the Second Medical Service, Boston City Hospital, through whose courtesy antigen was supplied for the Frei tests, and to Dr. R. Williams of the Mallory Pathological Institute, Boston City Hospital, for reading the reactions.

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# THE TREATMENT OF ACNE VULGARIS WITH PREGNANCY URINE EXTRACT*

## A Preliminary Report

BY CHARLES H. LAWRENCE, M.D.,‡ AND JACOB FEIGENBAUM, M.D.‡

DURING the past year, four young women who were being treated with Antuitrin S† for functional menorrhagia called to the attention of one of us (C. H. L.) the fact that the acne which each had had for several years had practically disappeared as menstruation became normal. Recently, one of them returned to the clinic for further treatment after an interval of three months. There had been a moderate increase in the duration and amount of the periods, and the acne had reappeared. Following the resumption of treatment, the acne has again vanished.

These observations, and the natural history of acne, seemed to us to justify further investigation of its treatment with pregnancy urine extract. For this purpose, patients from the dermatological clinic were made available through the coöperation of Dr. F. M. Thurmon, to whom our thanks are accorded. The majority of them had severe acne, which had proved resistent to various forms of treatment previously employed. To date, fifteen such patients have had sufficient treatment to justify certain tentative conclusions concerning its efficacy and significance. A brief summary of the essential facts concerning the patients and treatment is appended.

### COMMENT

The material is too meager to furnish a basis for definite conclusions. It does furnish, however, certain interesting suggestions. The ages of the patients coincide with the accepted opinion concerning the age incidence of acne[1, 2, 3]. The preponderance of females, although it does not agree with Bloch's[3] figures, has no significance in so small a series. The types of acne encountered, and its distribution, merely serve to show that the material represents, so far as it goes, the "run of the mine" in a dermatological clinic. Gradation of the severity of the process is based upon the number, size, and character of the lesions, and though somewhat too elastic for a scientific standard, does furnish an important criterion of the effectiveness of treatment. The duration of each patient's disease is interesting, for if subtracted from their present age it emphasizes the fact that with three exceptions the lesions appeared between the eleventh and the fourteenth years, in other words, during the years when puberty normally occurs.

The laboratory studies show no significant departures from normal, with the single exception of the glucose tolerance tests, which gave normal results in less than half the patients. No conclusions can be drawn, however, from so small a series except that in no instance thus far have we encountered convincing evidence of significant thyroid disturbance.

Treatment, as it has thus far been carried out, consisted in an initial dose of 1 cc. of Antuitrin S (100 R. U.) to determine the individual reaction to the extract. As a rule, the dose was then increased to 2 cc. three times weekly. In only one patient was there enough reaction to make it inadvisable to give the larger dose. The treatment has been interrupted three or four days before each menstrual period in our patients, and resumed two to four days after menstruation ceased. In no case has there been any demonstrable effect on normal menstruation. This observation agrees essentially with those of Murphy, Shoemaker and Rea[4] upon the effect of Antuitrin S in normal women.

In those patients who had acne and menorrhagia or metrorrhagia, the improvement in the acne paralleled the return of menstruation to normal. This association of effects suggests that the acne and the menstrual disturbance were, in these patients, both due to an identical hormonal imbalance.

Lack of coöperation from the patient prevented us from carrying out the treatment as scheduled in a few instances. The total amount of Antuitrin S necessary to obtain results in a given patient varies considerably, a characteristic which we have encountered also in its use in cryptorchidism and menstrual disturbances.

Our results have been tabulated as good (8 patients), fair (4 patients), or slight (2 patients). Only when the acne has practically disappeared as an active process have we designated the result as good. A definite diminution in the number, size, and duration of the lesions was graded as a fair result, while the term slight improvement indicates that some effect was obtained but that exacerbations still occur. By these criteria, it may be said that slightly more than half the patients (8) have been cured, if the results prove permanent,

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†We are indebted to Dr. E. A. Sharp of Parke, Davis & Co. for the Antuitrin S used in this study.

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while an additional 25 per cent (4) are greatly improved, and 2 or 3 per cent show slight improvement.

### COMMENT

Acne is essentially a disease of adolescence[1, 2, 3]; that period of life during which maturation of the reproductive system is being accomplished and bodily growth normally reaches completion. These processes predicate the effective establishment of new endocrine interrelationships in the body. Although maturation and growth are usually simultaneously completed early in the third decade, it must be borne in mind that the age and size of an individual are no proof of maturity, and the fact that acne sometimes does occur at an age when maturity is, as a rule, complete, does not argue against the theory that it is related to adolescence, and to the endocrine imbalances which are so common during that age.

There is no lack of evidence that the integument is affected by various hormones. The changes in the quality of the skin and hair in hypothyroidism and hyperthyroidism and the typical pigmentation of Addison's disease are cases in point. And the appearance of growths of hair on the body, and in the male, on the face, as definitive evidence of adolescence indicates a relationship between the skin and the new endocrine activity which underlies that developmental period. To quote from Bloch[3] "Acne is to be considered as a hormonal skin disease, which is certainly conditioned by the endocrine glands." He believes that "in its first phase it is a consequence of the function of the sexual glands; that in acne the normal physiological action of a ductless gland, the sexual gland, on the skin leads through transition stages to a final effect which is pathological, a real disease of the true skin, namely acne."

It is, we believe, open to question whether the activity of the sex glands which causes acne can strictly be called normal. It seems quite as likely that the sex glands of patients with acne may be as yet too immature to function physiologically. On that basis, the beneficial effect of pregnancy urine extract would depend upon its maturating influence upon the gonads and their internal secretion.

### CONCLUSIONS

1. In fifteen patients with acne, treatment with Antuitrin S has given results sufficiently satisfactory to warrant further study.

2. No definite conclusions can be drawn from so small a series of observations, but our observations and the natural history of acne, suggest that its cause lies in an endocrine imbalance coincident with adolescence, consisting possibly in a quantitative or qualitative abnormality of the newly activated gonadal hormones.

3. More complete study of the question is essential to a solution of the problem. We are carrying on such a study, the results of which will be reported when a convincing amount of material is complete.

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## BROMIDE INTOXICATION*

BY T. S. CLAIBORNE, M.D.†

THE frequent use of bromide in medical practice makes it necessary to keep the syndrome of bromide poisoning in mind. Acneform eruption and mental lethargy are the usually accepted evidences of overdosage of bromide and it is probably not generally appreciated that severe symptoms may be associated with it. Attention has recently been called by Craven[11], Sharpe[12], and others to the bizarre clinical picture of bromide intoxication simulating serious organic disease. Gross tremor, weakness, ataxia, blurred speech, mental dullness, fixed facies, hallucinations, and delusions are seen in this condition. These cases are frequent in psychiatric hospitals and are more often diagnosed there, partially because of the routine or the available use of the diagnostic test, blood bromide determination. In general hospitals, cases occur occasionally, probably more frequently than they are diagnosed. A report of a case which has recently come under observation in the Clinic illustrates the condition.

The history is often of little value in the diagnosis of bromide intoxication because of the confused mental state of the patient and also lack of suspicion of this condition on the part of the physician. Bromide intoxication must, however, be considered in any differential diagnosis before a diagnosis of brain tumor, "organic" psychosis or other more serious neurological conditions is made. The presence of a bromide rash is helpful but it is rather the unusual than the usual finding. Often the rash consists of only a few papulopustular lesions over the upper back. When bromide intoxication is present, bromide is excreted by the kidneys and its presence in the urine is easily demonstrated by a

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test* by Wuth[2]. It is also demonstrable in the blood. As a usual thing a blood bromide reading of over 200 mg. for each 100 cc. is present when symptoms of intoxication are found. Yet a higher concentration of bromide in the blood is sometimes present before an otherwise healthy individual shows the symptoms of intoxication. One case reported in the literature with no clinical symptoms had a blood bromide content of 385 mg. per each 100 cc.[10]. Normally there is no bromide in the blood. The general condition of the patient plays a considerable part in the patient's susceptibility to the intoxication with bromide. Patients who are elderly, those with kidney disease, edema of cardiac or renal origin and organic nervous or psychiatric disease seem to be more sensitive to bromide[3, 5] than patients without those complications.

Response to treatment in the intoxication is almost always rapid and satisfactory. The treatment is simple. It consists merely of stopping the intake of bromide and aiding its output by the administration of sodium chloride and large amounts of fluid. The dosage of sodium chloride employed is about 10 grams daily. The condition usually clears up in one to four weeks. More observation may be necessary when improvement occurs to determine the psychic makeup of the patient since an underlying mental disturbance for which bromide has been given will frequently be found. The presence of an organic neurological disease in addition to bromide intoxication must always also be considered.

In reviewing the cases of bromide intoxication in the literature subsequent to 1921, a tabulation of the variation in the first determination of the concentration of blood bromide was made, table 1, and also where it was mentioned of the duration of symptoms before the diagnosis was made, table 2. The large group of cases in the first column of table 1 (75 to 150 mg. for each 100 cc.) is due primarily to cases having other disease, making them more susceptible to intoxication. In table 2 it will be seen that the duration of symptoms varies from two to three days up to one year, with the largest incidence in the period of two to four weeks. In fifteen cases in which the examination of the spinal fluid was reported, five showed abnormal findings and ten were entirely negative. In three cases, syphilis of the central nervous system was found. In the two remaining cases, there was an increase in total protein, one 90 mg. and the other 80 mg. In the latter case a cell count showed ten lymphocytes. It would seem possible, therefore, to have an elevated spinal fluid total protein in bromide intoxication with no other sign of disease of the central nervous system.

*To 25 cc. of urine, add 1.0 Gm. of animal charcoal; mix well, allow to stand for a few minutes, and filter. To 5 cc. of the filtrate, add 1 cc. of 30 per cent trichloracetic acid and 1 cc. of 6.5 per cent gold chloride solution. A brown shade denotes a positive reaction.

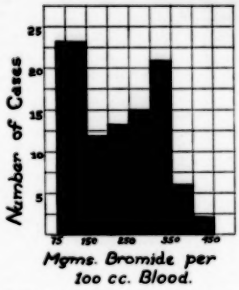


TABLE 1. Content of bromides in the blood of 92 cases with bromide intoxication.

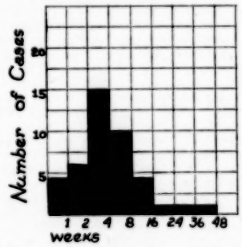


TABLE 2. Duration of symptoms before diagnosis in 42 cases with bromide intoxication.

## CASE REPORT

The patient was an American housewife, aged forty years, who was first seen in The Lahey Clinic on July 6, 1934. She complained of weakness of nine months' duration and a mental upset over a period of two to three months. With the aid of her husband, necessarily because of her unstable mental state, this patient gave a history of the gradual onset of weakness, loss of appetite and pains in the legs. These symptoms began about eight or nine months before entry. She soon began to lose weight and had lost twenty-five pounds.

She had had increasing unsteadiness in walking and a gross tremor of the hands, arms and legs for two or three months. Her husband had noted that her face had become expressionless. Her speech was slow and slurred. She was very nervous. For three to four weeks she had had delusions and oral and visual hallucinations. Because of unsteadiness she had fallen recently and had broken her nose.

On examination the patient was rather emaciated and displayed mask-like facies. She had a gross tremor of the hands. She walked slowly on a broad base and turned stiffly. The movements of the eyes were normal. The fundi were negative. The reflexes in the arms were active. The knee jerks were diminished. The Romberg test was positive. The finger to nose test was poorly done. On a Babinski test there was no response. The nose

| Name | Age | Sex | Physical Examination | Type of Acne | Distribution | Grade | Duration | Duration of Treatment | BMR % | Hinton | Blood Picture | Cholesterol Mgm. % | Glucose Tolerance | Number of Treatments | Units of Antuitrin S | Results | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. | 18 | F | Negative | Papular not Pustular | Face | + | 5 years | Mar. 2-May 11 | —4 | Neg. | Normal | 197 | Reduced | 24 | 3950 | Good | |
| A. A. | 18 | F | Negative | Papular not Pustular | Face | + | | Mar. 26-May 11 | —11 | Neg. | Normal | 163 | Normal | 18 | 2400 | Good | There is also hypopituitary element here. |
| J. L. | 22 | M | Negative | Papular, macular, comedones, Pustular | Face, anterior chest, posterior chest | +++ | 4 years | Mar. 21-May 11 | +14 | Neg. | | 181 | Increased | 21 | 4200 | Good | One of the best results obtained. |
| D. P. | 16 | M | Negative | Papular, comedones, Pustular | Cheek, chin, face, forehead | +++ | 3 years | Apr. 16-May 11 | +14 | Neg. | Normal | 150 | Increased ? | 11 | 2500 | Slight improvement | Result here fluctuates, good for a short time, then bad. |
| J. M. | 18 | M | Negative | Papular, comedones, scars, Pustular | Face, anterior and posterior chest | +++ | 6 years | Mar. 28-May 11 | +3 | Neg. | Normal | | Increased ? | 17 | 3250 | Good | One of the best results except for scarring. |
| F. L. | 19 | F | Negative | Papular, comedones | Face, forehead, cheek, chin | + | 5 years | Apr. 27-May 11 | +10 | Neg. | Normal | 190 | Increased ? | 6 | 900 | Good | |
| F. V. | 22 | M | Negative | Scars, Papular, comedones, Pustular | Entire face | +++ | 4 years | Desultory | +11 | Neg. | Normal | 187 | Normal | 3 | 500 | Slight improvement | Treatment insufficient. |
| R. S. | 19 | M | Negative | Papular, comedones, scars, Pustular | Neck, cheek, chin, shoulders | ++ | 5 years | Mar. 23-Apr. 20 | —7 | Neg. | Normal | 228 | Normal | 9 | 1800 | Fair | |
| E. B. | 22 | F | Negative | Papular | Forehead, cheek, chin | + | 9 years | Mar. 30-May 9 | +5 | Neg. | Normal | 161 | Normal | 7 | 1050 | Fair | Irregular treatment. |
| A. S. | 15 | M | Negative | Papular, comedones, Pustular | Forehead, cheeks, chin | ++ | 2 years | Mar. 16-May 4 | Unsat. | Neg. | Normal | 205 | Slightly decreased | 10 | 1800 | Good | |
| M. B. | 19 | F | Negative | Papular | Chin, cheeks | + | 5 years | Mar. 7-Apr. 2 | —3 | Neg. | | 224 | Normal | 6 | 1000 | Good | Results would have been better with more regular treatment. |
| M. H. | 15 | F | Negative | Papular | Forehead, cheeks, chin | + | 4 years | Apr. 18-23 | —13 | Neg. | Normal | 163 | Decreased ? | 4 | 600 | Fair | Not enough treatment to judge results. |
| H. A. | 24 | F | Negative | Papular, comedones, Pustular | Forehead, cheeks, chin | ++ | 6 years | Apr. 6-30 | —2 | Neg. | Normal | | | 10 | 1900 | Fair | |
| S. P. | 15 | F | Overweight | Pustular, comedones | Forehead, chin, cheeks | ++ | 4 years | Apr. 18-May 8 | —4 | | Hgb. 70 Red count normal | | Normal | 5 | 900 | Good | Prompt response, treatment continuing. |

showed signs of recent injury. The heart and lungs were negative. The pulse was ninety to one hundred, blood pressure 114/90. The joints were negative. The pulsations of the dorsal pedal arteries were normal. Her weight was one hundred and five pounds, her height four feet ten and a half inches. Examination of the blood showed the number of white blood cells, 6,450; the red blood cells, 4,700,000 and the hemoglobin 85 per cent. The urine showed a slight trace of albumin, no sugar and the sediment was negative. The stools were negative for blood. A lumbar puncture showed normal dynamics, negative Wassermann and negative Gold Sol, two lymphocytes and total protein of 90 mg. for each 100 cc. After five or six days in the hospital the patient was not much better. She was still having delusions and hallucinations. During this period she was given twenty grains of bromide on several occasions in an attempt to quiet her. A diagnosis of Parkinsonian disease was seriously considered.

Because of the presence of a psychosis, apparently not of an "organic" type and the physical signs of tremor, weakness and mask-like expression, a determination of blood bromide was made and found to be 300 mg. for each 100 cc.

She was then given sodium chloride, ten grams daily for eight days. Three days after medication was begun she had no more delusions and hallucinations and became stronger and mentally clearer. After eight days a determination of blood bromide was made again and the reading was 150 mg. for each 100 cc. During this period the patient began to have a few pustular lesions about the face and upper part of the body. These seemed typical of bromide rash. As she cleared mentally she began to complain of pains in the legs and feet which had troubled her from the beginning. Nothing could be found to explain these pains.

When the patient became oriented and mentally clear, a different history was obtained. It was found that the original complaint was pain in the feet and legs with some swelling and redness and for this she had been given a salty medicine. The diagnosis of the original complaint is not clear. The prescription which she was given was a combination of sodium bromide and potassium bromide. She had had the prescription filled at least twelve times and had, during the past seven months, taken twelve bottles.

Two weeks after discharge from the hospital, approximately three weeks after treatment was started, the patient was again seen in the Clinic. The improvement was remarkable. She appeared like a different person. She walked almost normally. She smiled easily, she was mentally alert, and there was very little tremor. The Romberg test was negative and the reflexes were normal. Her weight was 107 pounds. She said that she was greatly improved and that she felt better than she had at any time during the past twelve months. All the pains in the feet and legs had disappeared. At this time she did not wish lumbar puncture and so it was not urged. Blood was taken for determination of bromide and the report was 75 mg. for each 100 cc.

SUMMARY

A case which illustrates the serious results of bromide intoxication is reported. The simulation of more serious organic disease by bromide poisoning is suggested. Suspicion of the condition may be aroused by symptoms of weakness, tremor, memory defect, hallucinations and delusions.

The diagnosis may be made by determining the blood bromide. The possibility of bromide poisoning may be eliminated by demonstrating the absence of bromide in the urine. Treatment consists of the elimination of bromide from the blood. This is hastened by administration of sodium chloride. Results are gratifying.

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# DOCTORS, HOSPITALS AND LEGISLATION*

BY INGERSOLL BOWDITCH, S.B.†

THE Faulkner Hospital, which you have honored tonight by holding this meeting here, was founded by Doctor and Mrs. George Faulkner, long residents of Jamaica Plain, for the benefit of the people, and it was their wish that it be located somewhere in old Ward 23. Before Mrs. Faulkner died, the original location was purchased by her and in 1903 a hospital of twenty-eight beds was opened for patients. Since then, on account of the demand made upon it by the doctors and the community, the bed capacity has been increased to 150 beds and nearly eight acres of land have been added to the original purchase. I wish to bring to your attention as clearly as I can the fact that this hospital, as well as other hospitals of similar type, are for the benefit of the people in the community where they are placed and that any legislation which affects such hospitals affects also the people. Members of the Legislature and of the City Council are representatives of the people and, therefore, should give careful thought and consideration to all proposed laws and ordinances before allowing them to become

*Read at a meeting of the West Roxbury Medical Association, January, 1935.

†Bowditch, Ingersoll—Treasurer of the Faulkner Hospital. For record and address of author see "This Week's Issue," page 1232.

operative, and make sure that they will not in any way handicap the hospitals and, consequently, the people whom they serve.

Another point I wish to make clear is that hospitals are supported directly and indirectly by the people. Some generously contribute money and time for the benefit of those who cannot pay the cost of unexpected sickness. Others, who are financially able and desire to occupy private rooms, pay more than the actual cost of their care, thereby enabling the hospital to take care of those who are less fortunate. In any community, the people want to consider the hospital as their hospital, just the same as they consider the church which they attend their church, and should exert every effort to protect it from every harm and handicap which may threaten it. I want you all to feel that although our hospital is called the Faulkner Hospital, because it has to have a name to designate it from other similar institutions, just as we all have names to distinguish us from our neighbors or other members of our family, it is really our hospital and we should help it and through it our fellow beings, in every way possible.

I have used the pronoun "our" in the sense that I am a member of this community just as you are, and not as a Trustee of the Hospital.

There are a great many ways by which legislation can affect hospitals and the doctors connected with them. Every cent lost or paid out through taxation is a cent that cannot be used for the benefit of patients. Originally when the United States Government levied a tax on dividends, those received by hospitals were taxed, thereby reducing the income. Through the combined efforts of hospital trustees, the law was changed to exempt from taxation the dividends paid directly to the hospital treasury, and all former deductions were refunded. It was impossible to rectify one mistake, the taxation of dividends of a trust fund, the income of which was used for the benefit of a hospital. I do not know how much this tax reduced the income of the Faulkner Hospital by reducing the income from the Chickering Trust, but I am sure that this community would have been benefited if the full amount of the dividends had been received. Miss Caroline E. Chickering, by her will, appointed the Boston Safe Deposit and Trust Company Trustee of a fund, three-fifths of the net income to be paid to the Faulkner Hospital and two-fifths to the Massachusetts General Hospital. It did not seem reasonable to tax dividends which came to a hospital through a trustee when dividends paid direct were not taxed. This is the sort of legislation which should be carefully analyzed.

Another source of expense to a hospital is the check tax. Although it amounts to only two cents a check, when the number of checks drawn by this hospital is figured the sum paid in taxes during the year is considerable. The Faulkner Hospital's bank account was analyzed for the month of October to determine the amount of service charge to be made under the new rules of the Clearing House. Although the average daily balance was nearly ten thousand dollars, the large number of checks drawn and the many items of deposits caused a loss in bookkeeping to the bank as figured by the Clearing House rule. As you all undoubtedly know, the banks are not always correct in figuring the check tax. Individuals can accept the bank's figures without checking them, but a hospital bookkeeper ought to be sure that the amount of tax deducted is correct. It takes time to find this out. I hope that Congress will not spend its time thinking up a new tax law to take the place of this one which has just expired.

Another source of expense to a hospital is the processing tax. The tax itself does not amount to much but the labor to ascertain the amount to be remitted takes a lot of time and causes extra work for the office force, who have all they can do to keep the regular accounts of the hospital. The modern hospital accounting system has many details. It is necessary for the Superintendent to keep a very close watch on the receipts and expenses in order to see if any savings can be made for the benefit of the community, and any laws which call for extra work on the part of the bookkeepers should not be passed without a great deal of consideration. Hospitals keep their working staff as small as possible, consistent with the work to be accomplished.

Charitable institutions in Massachusetts are now exempt from taxation. The only tax they pay is on real estate held as an investment. This is not true in other states, and in the past years it has been suggested that new sources of revenue for Massachusetts might be obtained by taxing charitable corporations. So far the representatives of the people have considered their wishes but in these times no one can tell what may happen. I understand that in the last few years most hospitals in and around Boston have not been able to earn their running expenses, and if depreciation and other reserves had been set up, as is done by commercial corporations, every hospital would have ended its year with a deficit. If taxes were added to the present expense of running a hospital, I am afraid that many cities and towns would hold tax titles on or might even own hospitals which they could not afford to run and which would be very difficult to dispose of.

These cities and towns of Massachusetts receive great benefit from charitable institutions, which more than offsets any taxes which might be collected. I think that I am right in saying that in some cities in Massachusetts those who

cannot pay for sickness must be taken care of by public institutions. This means that the people, through taxation, must pay for the cost of sickness of those who have no money to pay this cost. In 1934 the Faulkner Hospital gave over $41,000 worth of treatment to those who could not pay for it. It receives no payment from any city or town for this free treatment. If this treatment had not been given, the patients would have had to be taken to public hospitals supported by taxation and often so crowded that it is impossible for patients to receive as satisfactory care as they receive at our hospital.

The rates which are charged to patients in hospitals such as the Faulkner are based on the cost of care and, to a certain extent, on the ability of the patient to pay them. If the overhead is reduced the rates can be less, and the community gets the benefit. In these days it is very difficult to raise an endowment, the income from which would pay the cost of hospital care, thereby reducing the rates charged to the patients, and if donations for current expenses could be easily obtained the need of an Emergency Campaign would not exist. The only way a hospital can serve a community as it should be served is by keeping its expenses less than its income.

Laws concerning the supervision of hospitals should be carefully made. I am well aware that if there were no laws concerning the conduct of hospitals great dangers to the community would exist. Perhaps the members of legislatures and of city governments do not realize the safeguards the hospitals themselves and the doctors connected with them have set up for the protection of the general public.

Last October the American College of Surgeons held its annual meeting in Boston, and the Faulkner Hospital took part. This association of surgeons has had a great deal to do with the establishment of the high standards set by hospitals all over the United States and Canada. It is the aim of all well-conducted hospitals to receive an approved rating from this association. To receive this rating many conditions have to be met, and any patient going to an approved hospital can be assured of good scientific treatment from those connected with it.

A hospital where students may continue their education has to receive the approval of the American Medical Association and also has to have the good will of those connected with the first class medical schools. No ambitious graduate student will want to take the position of intern in a hospital where the staff doctors are not held high in their profession and where the equipment and nursing service are not up to standard.

In order that graduate nurses may register and hold positions in the different states, the training schools of hospitals have to comply with the standards for registration set by the public authorities of those states. All first class hospitals want the best material they can obtain for pupil nurses and, therefore, must offer the highest type of education to attract this material. In considering laws to govern the conduct of hospitals, due consideration should be given to the standards set by the leading societies I have mentioned. Their officers might be consulted with the result that the states and the societies may work together to a common end. Without such coöperation it might be possible that the laws of a state would prevent a hospital from receiving the approval of the American College of Surgeons. This would put it in a very undesirable position with its fellow members of the American Hospital Association.

I hope I have made it clear that no law should be passed which will handicap a hospital trying to live up to the highest standard. Such hospitals will, undoubtedly, encourage other hospitals to rise to a higher level more rapidly than any newly enacted law.

For the past two or three years we have heard a great deal of discussion about minimum wages and the number of hours people can work. The United States Government tried to formulate a code for hospital service, but it was an impossible undertaking. No one knows the exact minute when babies are to arrive or when an emergency operation must be performed. Therefore, hospitals must be ready every minute in the twenty-four hours of the day to receive and take care of patients. They have to be on the same basis as the fire department, but it would be financially, and from a practical point of view, impossible to have eight-hour shifts in every position. Every one in this community expects the doctors to be on call day and night. What would they think, when they wanted the family doctor to attend their baby who had a severe attack of croup, if they were told that he had worked that day the number of hours the law permitted and could not see the baby until the next day? Many attempts will be made in the next few years to legalize the amount of labor a person may do in a day, and when this subject is considered, charitable institutions must receive due consideration. The worries of the Superintendent should not be increased.

Up to this point I have been speaking about the effects of legislation in a general way. I want now to call your attention to a piece of legislation which ought to be improved for the benefit of hospitals and doctors. This is the compulsory automobile liability insurance law. As I interpret this law, it was passed so that those who were injured through the carelessness of a driver might be compensated for their medical expenses and loss of earning power by the company in which the driver was insured. Let us see how this works out in an actual case.

A laboring man, with a family to support, is run over by an automobile and receives a fracture of the skull and internal injuries. He is rushed to a hospital and has to be operated upon immediately to save his life. There is no time for the admitting officer to find out whether the injured man is able to pay for the operation and after-care. It is the patient to whom the hospital and doctor must look for the payment of their bills, not the insurance company or the driver. It would not be proper to refuse to operate until the officer found out who was to be responsible for these payments. After the operation is performed, it is learned that the patient has no money to pay his bills and the hospital and the surgeon will have to wait until the insurance company settles with him. Unless the evidence as to the responsibility of the driver is indisputable, the insurance company, when the damages are severe, will raise the question of contributory negligence on the part of the injured man and will offer a very small amount to settle the claim. In a great many cases this settlement is refused, and the insurance company makes no further effort until a suit is brought against the insured and it is actually put down for trial. As you all know, the courts are several years behind in their work and the insurance companies do not make much effort to bring their cases to trial. As I said before, the hospital and doctors look to the patient for the payment of their bills, and when a demand is made the answer is, "I shall pay it when the insurance company settles." This means that the hospital and doctors have to wait two or three years before the bills are paid, if the patient is honest. If he is not honest the care of the patient is a dead loss to both. It is human nature for a poor man with a family, when the settlement has been made with the insurance company two or three years after he has left the hospital, to think that the hospital, having waited so long for its money, can wait still longer and, therefore, he can use the money for the benefit of the family.

The State of New Jersey and, I believe, one or two other states have a law allowing a hospital to register a claim with the City or County Clerk, or some other public official, against a patient who was injured in an automobile accident. Before the insurance company can settle this claim, which has been thus registered, the hospital has to be satisfied. The Faulkner Hospital has lost a great deal of money on account of its inability to collect from patients who have been injured by automobiles, have been discharged and have no financial resources. Doctors have, undoubtedly, lost more. I am in no position to suggest the form of a law to be passed to correct this hardship to hospitals and doctors. The aim of it, however, should be to prevent a settlement by the insurance company until both hospital and doctor have been paid for services rendered.

Another question to be considered is whether automobilists should be compelled to take out insurance which will pay for their hospital care resulting from accidents in which they alone are involved. In order to make my point clear, I shall assume that a car has skidded on Centre Street and knocked down a lamp-post. The driver has been badly cut by glass and has been taken to the hospital to have his wounds dressed. He is entered as an out-patient and is treated by one of the staff doctors. The hospital furnishes operating room supplies as well as the time of its nurses and interns. A bill for a moderate amount is presented, and the patient promises to send a check the next day in settlement but often no check is received. Sometimes false names and addresses are given so that the patient cannot be traced. As Treasurer of this hospital I have learned a great deal about human nature. Frequently the bills are of too small an amount to warrant the spending of money to bring suit to collect them. Their total, however, is appreciable. Perhaps it might help if a hospital be permitted to retain the driver's license until his obligations are paid.

In order that first-class hospitals may be able to carry on their work to the best advantage of the community which they serve, the laws to which they are subject should be reasonable and should enable the hospitals and doctors to protect themselves from those who think they should receive free treatment when they are perfectly able to pay for what they receive.

It has given me a great deal of pleasure to have this opportunity to place before you some of the problems a community hospital has to contend with, and it is my hope that when the opportunity comes to consider proposed laws and ordinances those who are responsible for their adoption will take into consideration the fact that the best charitable organizations are conducted for the benefit of the people and should not be affected by laws in any way which will prevent them from carrying out this important obligation.

## THE PROBLEM OF RHEUMATISM

Recently in the Annals of Internal Medicine was published "The Present Status of the Problem of 'Rheumatism'; A Review of Recent American and English Literature on 'Rheumatism' and Arthritis." It was written by Philip S. Hench, Walter Bauer, Almon A. Fletcher, David Ghrist, Francis C. Hall, and Preston White.

Reprints of this Review, under the auspices of the American Committee for the Control of Rheumatism, can be secured by any interested physician by sending one dollar to the Secretary, Dr. Loring T. Swaim, 372 Marlborough Street, Boston.

# VERMONT STATE MEDICAL SOCIETY

## THE OPTIC DISK AS AN AID TO DIAGNOSIS IN CENTRAL NERVE LESIONS*

BY GEORGE G. MARSHALL, M.D.†

INTRACRANIAL conditions causing disk changes in order of their frequency are tumors, chronic abscesses, and injuries to the skull causing hemorrhage with increased intracranial pressure. Tubercular meningitis and syphilis are less frequent causes. Chronic arachnoiditis is not an infrequent etiology of choked disk, and secondary optic atrophy. Of the above causes, intracranial tumors are the most frequent, ranging from 80 per cent to 90 per cent of all cases. There are other causes, which will not be discussed in this brief paper, but it may be stated that choked disk is seldom present in encephalitis, only one case being reported in the recent St. Louis Epidemic.

It must be the experience of every practitioner that frequently negative disk findings are reported when there are manifest intracranial pressure symptoms, and at other times of a marked choked disk being present, when there are few or no other symptoms pointing to intracranial lesions. Let us review briefly the conditions that cause choked disk, their relation to the cerebrospinal fluid circulation, and to the lymph flow from the optic nerve head. The cerebrospinal fluid is largely secreted by the choroid plexus within the ventricles, and the flow is from the lateral ventricle into the third, by the intraventricular foramen. From the third ventricle it flows through the aqueduct of Sylvius into the fourth, and from here through the foramen of Magendie and Luschka it empties into the basal cisterna, from which it spreads up over the cerebral surface beneath the arachnoid, and a portion circulating through the spinal canal. The anterior part of the third ventricle rests on the optic chiasm, and distention of this ventricle causes edema of the disk, by obstruction of the lymph flow in the optic nerve sheath, which is an invagination of, and continuous with, the arachnoid membrane. Intracranial tumors, abscesses, hemorrhages or cysts, so located as to distort and interfere with the drainage functions of the ventricles give rise to choking of the disk, and conversely pathological growths not so located do not cause disk changes. Frontal lobe tumors may cause choked disk of the opposite side and optic atrophy with anosmia of the same side. Disturbances of the vision may not bear a direct relation to the amount of papilledema. While choked disk is of primary importance in diagnosing intracranial pathology, and should never be treated lightly, its absence is of less value. Pressure from beneath the chiasm, such as is produced by pituitary tumors, does not cause choked disk, but rather primary optic atrophy, associated with bilateral hemianopsia. Changes in the visual field are frequently present before there are disk changes, and the former is often of greater help in the localizing of cerebral tumors.

A brief review of a few cases will illustrate the importance of studying the disk in all suspected intracranial conditions, and they will also show that grave cerebral pathology may be present, with no papillary changes.

CASE 1, J. R. aged thirty-seven, foreman in a woolen mill. On the morning of Feb. 7, 1927, he was taken suddenly with violent pain in the occipital region, cried out, fell forward, and was unconscious for about fifteen minutes. There was no paralysis following, but headaches and vomiting continued for several days. He returned to work much improved, twenty days after the attack, and continued at his work until March 10, two weeks later, when in the night, he was found unconscious and breathing stertorously. Following this seizure, there was paralysis of the left arm and leg. Spinal fluid contained blood. Wassermann and urine negative. The paralysis and general symptoms improved until the tenth day, at which time he had convulsions, followed by complete paralysis of the left side. On the next day, a right temporal decompression was done. At operation, a tense bulging dura was found, and on incision of it bloody fluid escaped. The patient continued to grow worse, temperature rising to 107° before death on March 23. At autopsy, a large clot was found in the right lateral ventricle. Notwithstanding the marked increased intracranial pressure from the clot for fourteen days, there were no changes in the disk.

CASE 2, MRS. J. E. aged thirty-seven, mother of six healthy children. Soon after the birth of her last child in March 1933, she began to have severe headaches, with vertigo and double vision. She was admitted to the Rutland Hospital in December 1933. Her chief complaints were headache, diplopia, vertigo, vomiting and great mental anxiety. The pupils were equal, and reacted to light, fundi were normal, and the field of vision was moderately contracted. On the fifth day of her stay in the hospital, she was taken with violent pain in the head, and soon went into coma, with pupils widely dilated. The temperature rose to 104.4° before death, about eighteen hours after the onset of the coma. Autopsy revealed a large ruptured glioma at the base of the brain, extending from the sella turcica back between the cerebral hemispheres and cerebellum. Here was a case with a large cerebral tumor, in which the disks were negative. The only eye symptom was diplopia.

CASE 3, MRS. A. I. aged thirty-two. On April 22,

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1919 she came to the office complaining of failing vision, and severe headaches. Vision of the right eye was 20-50, and the left 20-200. Headaches were becoming more severe, and there was falling of her hair, irregular menses, and she was gaining weight. Symptoms showed dysfunction of the pituitary. Both disks were pale, not choked, and there was bilateral hemianopsia. She was operated by Dr. Cushing, who removed a pituitary tumor. The patient made a rapid recovery. The vision of the right eye was restored to 20-20, and the left remained at 20-200. Today, after fifteen years, this patient has nearly normal central vision of the right eye, and enjoys good health. This case was diagnosed almost solely by the atrophic disks, and visual field changes.

CASE 4, Mrs. I. U. aged thirty-six, entered the Rutland Hospital May 20, 1934. Chief complaints: Failing vision and inability to walk, for lack of coördination. Family history: Father died following an operation for brain tumor at forty-seven. One sister, six years older than the patient, died at age twenty-eight of cerebellar tumor; this sister was blind two months before death, and coma preceded the end by two weeks. Mrs. U. was an active girl; teacher of athletics. Married at twenty-six and four years later gave birth to a healthy baby. In the summer of 1932, she began having frontal headaches, and difficulty in walking on account of ataxia. At the same time she noticed failing vision. She would occasionally fall, and be in a semi-conscious state for a short time. The vision continued to fail, so that by April 1933, she was no longer able to write, and walking became more difficult. Examination at the time of entering the hospital revealed positive Romberg and marked ataxia. Pupils were dilated and contracted feebly to light, but did not maintain contraction. Vision of the right eye was limited to the counting of fingers at four feet, and there was loss of light perception in the left. Both disks were choked, and there was secondary optic atrophy. Except for the disks, the fundi were normal. Lateral nystagmus was present at times. X-ray showed destruction of the postclinoid process, and enlargement of the sella turcica. The visual field of the right eye was cut off on the temporal side to the median line, and did not extend over fifteen degrees in any other direction. Left visual field could not be taken. The patient was growing worse with increasing pain in back of the head and neck. She was vomiting and confined to her bed. On June 7, she was taken to the New England Deaconess Hospital in Boston, where a diagnosis of cerebellar tumor was made on the strength of secondary optic atrophy, nystagmus and ataxia. Operation under local anesthesia was performed by Dr. Horrax, with the following findings: a large hemangioma was found occupying the fourth ventricle, and herniating through the foramen magnum, down into the spinal canal. The lower portion of the tumor was removed, but that part in the fourth ventricle could not be, on account of its delicate position, and because large blood vessels traversed this portion of the tumor. The patient made a good postoperative recovery, and intensive x-ray treatment was administered three weeks after the operation. The results today are as follows: the patient is free from headache. Nausea and ataxia are much improved. There is slight improvement in her vision. In this case the x-ray of the sella and the temporal hemianopsia suggested pituitary tumor but secondary optic atrophy does not occur from pituitary tumors.

This patient had been having brain tumor symptoms for about two years. If the disks had been examined, her condition would have been diagnosed before permanent damage was done.

Syphilis, which was suspected, should have been confirmed or excluded, without waste of time.

CASE 5, Miss A. H. aged nineteen, was first seen Nov. 13, 1919, complaining of noises in the head, growing deafness of the right ear, dizzy and severe headaches. No visual defect was noticed. The patient was not seen again until June 1920. She then had lost the vision of the right eye, and that of the left was very poor. The pupils were dilated, and there was marked choking of the disks; dizziness, nausea, headaches and ataxia were all present. Wassermann and urine were negative. X-ray showed sella turcica destroyed, except for the anterior clinoid process. The patient was operated by Dr. Cushing, June 25, 1920, who removed a right acoustic tumor. The localization was made by the choked disk, deafness of the right ear, and ataxia. Choking of the disk is practically always present in acoustic neuromas, and there is early deafness of the affected side. While destruction of the sella turcica was shown by the x-ray, this condition is often present in tumors located elsewhere in the skull. This patient was relieved of her pressure symptoms, but there was no improvement in her vision, and she died two years later. Doubtless, an examination of the eyes at the time of her first visit would have shown disk changes, and the true diagnosis made, giving an opportunity for early operation.

While cerebral tumors and abscesses are the most frequent causes of choked disk, chronic arachnoiditis is not rare, though less frequently recognized. Arachnoiditis causes a most marked choking of the disk, which may come on rapidly, so that prompt recognition and surgical treatment are imperative to save the vision. Chronic arachnoiditis by adhesions causes blocking of the cerebrospinal circulation, resulting in distention of the ventricles and of the cisternae. Case histories of this condition have been reported by various writers, among whom are Cushing, Horrax, Craig, Frazier, Cutler and others. The symptoms so resemble those of brain tumor, that until operation a differential diagnosis cannot be made, and for this reason this pathological condition has received the name of pseudotumor or tumor suspect. I have seen four cases of chronic arachnoiditis, presenting the symptoms of intracranial tumor, all of which had rapid failing vision, with marked choking of the disk. The diagnosis was confirmed by operation, and the subsequent history. I have in a previous paper reported three cases, and will now review one of these three, since she presents a most typical history, and eighteen months have elapsed since my first report.

CASE 6, Miss N. H. aged twenty, was first seen July 15, 1932, when she gave the following condensed history: Double vision for the past three weeks, left eye converged, vision blurred, frontal headaches, shifting to occipital, is dizzy, and has soreness in back of the neck. Vision of the right eye 20-30 minus, left 20-60. There was choking of the disks, most marked in the left eye. Left pupil dilated. The patient had gained thirty pounds in the past eight months; patellar, biceps, and triceps reflexes absent. Wassermann and urine negative.

She entered the Peter Bent Brigham hospital in September, 1932. Dr. Cutler did a suboccipital operation under local anesthesia. Considerable cerebrospinal fluid, found enclosed in an adherent arachnoid was released from the cerebella fossa. No tumor was found. On October 10 the patient returned home. November 10 the vision of the right eye was 20-30, and left 20-40, and there was no diplopia, headache or dizziness. Disks were still choked, but much less. Reflexes absent. Field of vision was moderately contracted. February 20, 1933, the vision of each eye was 20-30. She was having no dizziness, headache or ataxia. This patient has since married, and has a healthy seven months old baby. On September 22, of the present year, the vision of each eye was 20-20. She is free from symptoms, though the reflexes are still absent.

Not all cases of arachnoiditis are so extensive. In some, the most marked symptoms may be loss of sense of smell or of hearing in one ear, with paresis of groups of muscles. The following history illustrates such a case.

Mrs. W. D. aged forty-two, on Nov. 14, 1933, was taken with severe occipital headache, and general ill feeling, which continued for two weeks. On November 28 in the night, she had severe pain in the occiput, radiating to the right ear. She attempted to get out of bed, and as she got on to her feet, her legs crumpled, and she was nearly helpless. On examination it was found that she had decided tenderness over the base of the skull. There was partial paralysis of the left arm and leg, left side of face, and of the right external rectus. There was ptosis of the right eye, right pupil contracted. The sense of smell was lost, and sensation for heat and pain on the left side absent, but sensation to touch was present. The reflexes were increased. The mind was clear. This condition lasted about two weeks. Then gradual recovery began and in about two months the patient had regained her usual health, including return of the sense of smell and of single vision. While this case was not confirmed by operation, she was studied most carefully by Dr. Bellerose and me, and it was our conviction that this was a case of circumscribed arachnoiditis.

I will next report my last and most striking case, which illustrates how quickly disk changes may take place, and the importance of prompt surgical interference to save the sight.

Miss J. C. aged nine, had none of the usual symptoms, such as headache, vertigo or changes in her reflexes. Her only symptom was rapid failing vision, first noticed about two weeks before I saw her. She had septic tonsillitis in Feb. 1933, but had made a good recovery. On April 14 when I first saw her, she presented every appearance of a healthy, happy and a rather precocious child. The vision of the right eye was reduced to 3-200, and to poor perception of light in the left. There was choking of the disks, right 3D and left 4D. Examination on the two following mornings confirmed the first findings, and she was referred to the Peter Bent Brigham Hospital, where, on April 18, Dr. Cutler operated on her. After his examination, and before operation, Dr. Cutler made a tentative diagnosis of either arachnoiditis or brain tumor. His physical findings were also negative, except for the loss of vision, and choking of the disks without hemorrhage. A ventriculograph revealed normal ventricles. To relieve the pressure, and save the sight, he did a right temporal decompression. The dura was tense, and was freely incised. The arachnoid was very wet, and great quantities of fluid ran from the entire surface. No tumor was found. The next day, the patient's general condition was good. Recovery of vision was rapid, so that by May 27, about five weeks after the operation, the vision of the right eye was 20-20, and the left 20-30, and by July 15, the vision of each eye was normal, and remains the same to-day after eighteen months, though there is some pallor of each disk. In this patient, there could not have been more than four weeks from the beginning of failing vision, to the time of operation, and no doubt, without prompt relief of the intracranial tension, permanent blindness would have resulted.

From these reports, we can draw the following summary: The first two, one with a large clot in the right lateral ventricle, and one with a ruptured glioma at the base of the brain, showed no changes of the nerve head. Consequently, in these two, the disks were of negative diagnostic value. The third showed primary optic atrophy, and a pituitary tumor was diagnosed, operated early, and good vision of one eye was preserved. The fourth and fifth cases showed choked disks with *secondary* optic atrophy, in which the diagnosis and operation were so late, that in the one with the cerebellar tumor, the vision was damaged beyond hope of recovery, and the one with acoustic neuroma was blind at the time of operation. The last two cases of arachnoiditis were fortunately diagnosed and operated early, and in these two there was complete recovery of the vision.

Conclusion: Optic atrophy or choked disk may be the first symptom of central nerve lesions, consequently ophthalmoscopic examination of the eyes should be made in every suspected case, and opportunity given these patients for an early diagnosis and operation.

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## MISCELLANY

### VERMONT DEPARTMENT OF PUBLIC HEALTH

#### APRIL, 1935

During the month of April, there were reported to the Vermont Department of Public Health the following cases of communicable diseases: chicken pox 119, diphtheria 6, German measles 1506, measles 116, mumps 30, scarlet fever 79, typhoid fever 1, smallpox 1, whooping cough 90 and tuberculosis 6.

In April the Laboratory of Hygiene made a total

of 1771 examinations classified in the following manner:

| | |
|---|---|
| Examinations for diphtheria bacilli | 136 |
| " " Widal reaction of typhoid fever | 30 |
| " " undulant fever | 63 |
| " " gonococci in pus | 156 |
| " " tubercle bacilli | 289 |
| " " syphilis | 547 |
| " of water, chemical and bacteriological | 61 |
| " " water, bacteriological | 209 |
| " " milk, market | 117 |
| " " milk, submitted for chemical only | 24 |
| " " milk, submitted for microscopical only | 39 |
| " " foods | 4 |
| " for courts, autopsies | 1 |
| " " courts, miscellaneous | 10 |
| " of animal heads for evidence of rabies | 2 |
| " for the presence of malaria | 0 |
| " miscellaneous | 81 |
| Autopsies to complete death returns | 2 |

The Division of Venereal Diseases received reports of thirty-five cases of gonorrhea and twelve cases of syphilis. Eight hundred and fifty-four outfits for Wassermann tests and 386 gonorrheal slides were distributed by this Division in April.

The nurses of the Poliomyelitis After-Care Division visited ninety-two patients in April. One patient was discharged from the Audubon Hospital, two patients discharged from the Children's Hospital and one patient admitted to the Massachusetts General Hospital. Six pieces of apparatus were fitted by the nurses of this Division and twenty-four orthopedic corrections made to shoes.

The Director of the Division of Public Health Nursing devoted most of her time this month supervising the V. E. R. A. nurses, which include 37 staff nurses, four supervisors and three dental hygienists now working in the state.

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### May, 1935

The following communicable diseases were reported to this office during the month of May: Chicken pox 195, diphtheria 1, measles 358, mumps 14, scarlet fever 36, poliomyelitis 1, typhoid fever 3, undulant fever 3, whooping cough 108, German measles 1650, tuberculosis 5.

Examinations were made in the Laboratory of Hygiene, totaling 1836, classified as follows:

| | |
|---|---|
| Examinations for diphtheria bacilli | 114 |
| " " Widal reaction of typhoid fever | 42 |
| " " undulant fever | 61 |
| " " gonococci in pus | 153 |
| " of tubercle bacilli | 229 |
| " for syphilis | 636 |
| " of water, chemical and bacteriological | 91 |
| " " water, bacteriological | 201 |
| " " milk, market | 223 |
| " " milk, submitted for chemical only | 14 |
| " " milk, submitted for microscopical only | 0 |
| " " foods | 8 |
| " for courts, autopsies | 1 |
| " " courts, miscellaneous | 18 |
| " of animal heads for evidence of rabies | 3 |
| " for presence of malaria | 1 |
| " miscellaneous | 41 |

Twenty-five cases of gonorrhea and seventeen cases of syphilis were reported to our Division of Communicable Diseases. There were 942 Wassermann outfits and 416 gonorrheal outfits distributed by this Division in May.

The Director of the Division of Tuberculosis visited fourteen towns of the State with the health show of this Division. The school paper, *Modern Health Crusader*, was printed and 10,000 copies distributed.

The nurses of the Poliomyelitis After-Care Division saw 157 patients this month, 24 in their homes, 1 at the office and 132 at the spring clinics held at eight centers of the State. Of these 132 cases, 52 were non-polio ones. The vocational worker of this Division reports sales made amounting to $135.72.

The State Advisory Nurse's time is devoted to the supervision of the V. E. R. A. nurses. The nurse has also attended several meetings and assisted at the Staff Nurses Education and Visiting Housekeepers' Conference.

# CASE RECORDS
## *of the*
# MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.

## CASE 21261

### PRESENTATION OF CASE

A fifty-seven year old American entered complaining of recurrent hemoptysis.

For years he had had a chronic cough. Eighteen years before admission he had lobar pneumonia. He had been especially well since then except for a persisting chronic pharyngeal discharge associated with a hacking cough. X-ray films taken six years before entry showed healed apical tuberculosis without any evidence of activity. This impression was confirmed two years later. Four years before entry he began having slight shortness of breath upon exertion. Two years before entry he had a typical attack of coronary thrombosis with left ventricular infaret as shown by electrocardiogram. Six months before entry he had an attack of right upper quadrant pain which radiated to the back. Associated with this were jaundice and clay colored stools which soon cleared up. Three months before admission hemoptysis was noticed for the first time. Usually there was simply streaking of the sputum with blood and occasionally he raised as much as a teaspoonful of fresh bright blood. The following month he was quite well but during the month before admission he developed malaise, shortness of breath, weakness and a loss of six pounds in weight. During the past two weeks he ran a slightly elevated temperature, ranging from 99° to 102°. During this period he had occasional recurrences of the hemoptysis.

Physical examination showed a thin, perspiring, sleepy, elderly man. There was decreased chest expansion on the left. The intercostal spaces on this side were full. The lungs showed hyperresonance anteriorly and in the right back. In the left back there was dullness to flatness extending up to the midscapular region, with decreased to absent breath sounds and no transmission of vocal fremitus or spoken voice. It was not possible to determine the size of the heart because of hyperresonance. The heart sounds were heard best just to the right of the sternum, at the level of the fifth interspace. No murmurs were heard. The blood pressure was 85/60. Abdominal examination at this time was not remarkable. There was slight overcurving of the fingernails but no definite clubbing.

The temperature was 100.8°, the pulse 90. The respirations were 20.

Examination of the urine was negative. The blood showed a red cell count of 5,690,000, with a hemoglobin of 85 per cent. The white cell count was 17,000, 83 per cent polymorphonuclears. The sputum was thick, mucopurulent, and contained small amounts of blood, numerous cocci but no tubercle bacilli. The stools were negative. The nonprotein nitrogen of the blood was 30 milligrams. A Hinton test was negative.

X-ray examination of the chest showed shifting homogeneous dullness occupying the left side of the chest which obliterated the left side of the diaphragm and heart border and displaced the heart markedly toward the right. In the upper aspect of the left lung root there was a lobulated shadow which had the appearance of large masses in the lung. Extending outward from this area were numerous small dense lines. Similar lines were seen in the right apex. The remainder of the lung was clear. One film taken with the patient supine showed that the left main bronchus was smaller than the right.

After a chest tap on the second day and the introduction of a small quantity of air there was a chest fluid level. The heart and mediastinum were still displaced toward the right. The chest fluid contained 4,700 red blood cells and 670 white blood cells, 80 per cent of which were lymphocytes.

He was put on digitalis, 1½ grains a day. On the sixth day he began to vomit and complain of abdominal pain and distention. The following day an ileostomy was performed which relieved his abdominal symptoms tremendously. At the end of twenty-four hours, however, he began to hiccup, rapidly failed and died on the fifth postoperative day.

### DIFFERENTIAL DIAGNOSIS

DR. GERALD BLAKE: The shortness of breath on exertion two years before the coronary thrombosis may have been dependent upon the condition of the coronary vessels at that time. The attack of right upper quadrant pain associated with jaundice was probably due to a gall stone attack. Frequently gall bladder disease, gall stones, and coronary disease are found in the same individual. The hemoptyses at first make us think of tuberculosis in a man of this age or younger and after that make us think of all the other causes of hemoptyses, from tumors of the bronchi or lungs to so-called apoplexy of the lung in a man whose arteries were sclerosed as this man's arteries were.

The physical examination shows a thin, perspiring, sleepy, elderly man of fifty-seven, suggesting loss of weight, fever, weakness and arteries that are older than his years. The rest of the physical examination shows fluid in the left chest and compensatory breathing or

emphysema of the right chest with an extreme degree of displacement of the heart to the right, perhaps more than the amount of fluid alone would account for. The blood pressure is low as a result of the earlier myocardial infarction and his recent loss of blood and recent fever. There is no evidence of cardiac failure in the clear right lung base and negative abdominal examination. The absence of definite clubbing is against a long-standing infectious process in the lung.

The high red count and hemoglobin of 85 per cent may be secondary to the dehydration or emphysema or both. The white count of 17,000, with 83 per cent polymorphonuclears and the temperature ranging to 102° while suggesting an acute infectious process is not inconsistent with the presence of malignant disease alone.

The finding of 80 per cent lymphocytes in the chest fluid while most consistent with tuberculosis may also be found in chest fluids from other causes. The absence of endothelial cells is of some significance.

Before seeing the x-ray plates I might say that tuberculosis is not ruled out as the cause of this man's condition although the absence of fever and malaise during the first two months of hemoptysis is against it. In addition to tuberculosis we have to look for evidence of tumor of the lung or bronchi, either primary or metastatic and either carcinoma or sarcoma or hypernephroma, as well as mediastinal tumors, lymphomata or metastatic glands from cancer elsewhere. The description of the x-ray shows a left chest filled with fluid which has displaced the heart, shows dense lines running to both apices which are consistent with healed apical tuberculosis and shows a left main bronchus smaller than the right, probably due to pressure of masses outside the bronchus but possibly to carcinoma of the bronchus or a former severe infectious process, and shows what looks like a large mass in the lung near the upper part of the left lung root. This appears to rule out tuberculosis as a diagnosis.

Dr. Aubrey O. Hampton: Examination of the chest six years before admission shows these changes in the right apex. We note also some calcium in the left apex, a fairly typical picture of an old tuberculous infection. He had no enlargement of the heart at that time. This examination at the present entry shows marked displacement of the heart and mediastinum toward the right by this homogeneous shadow which has a very definitely nodular margin on the upper medial aspect. We wanted to show the ribs and vertebrae and we thought we demonstrated the left main bronchus in this Bucky film. Here is the trachea and right main bronchus, a small sized left main bronchus going very irregularly across the spine here. A large mass there above and around the left main bronchus; then this queer curve in the region of the bifurcation. A mass again here at the carina. There is no evidence of disease in the bones and after a chest tap he had fluid levels and again the shadow which we interpreted as a mass. It is rather remarkable that the heart is so far displaced to the right without the left lung being completely obscured by fluid. The border of the right side of the heart is rather prominent and full.

Dr. Blake: Whether this tumor mass is primary or metastatic is difficult to say. We have from the story no suggestion of primary carcinoma or sarcoma elsewhere aside from the possibility that the intestinal obstruction may have been caused by a primary growth in the large intestine. Evidently he developed intestinal obstruction which may have been due to paralytic ileus or mesenteric thrombosis, or most likely extension from the tumor of the left lung. Hiccup was probably due to the abdominal condition causing obstruction. The appearance of the mass in the lungs is consistent I should say either with primary or metastatic disease, the tendency to hemoptysis being perhaps more common with primary disease than with metastasis.

We are dealing with a rapidly progressing disease of the lung which causes the patient's death three months after the first hemoptysis and only five weeks after he first complains of weakness, malaise, fever, etc. The first thing to do is to make sure that the condition is not based on congestive changes in his lungs and resulting changes in the right side of his heart. That I think is ruled out because of the absence of evidence of congestive failure of the heart.

I should like to know whether this man's prostate showed anything abnormal. Is there any note on that?

Dr. Donald S. King: I do not believe so.

Dr. Blake: The mass at the lung root, as I said, may be primary or secondary. The absence of evidence of metastases elsewhere I should think was somewhat against its being a metastatic growth. The rapidity with which the disease progressed is a little bit contrary to the usual rule of primary bronchiogenic carcinomas. However, it would seem to me that that is probably the best diagnosis in this case and that metastasis to the abdomen is the cause of his intestinal obstruction. My second guess would be carcinoma elsewhere, not discovered, in the abdominal cavity as a primary lesion, and that this is a metastatic growth in the lung.

Dr. Tracy B. Mallory: Dr. King, have you any comment?

Dr. King: Dr. Brailey had direct charge of this patient. I saw him in consultation in regard to his chest condition. The case illustrates two procedures which are definitely helpful in the diagnosis of obscure lung cases. First, the

removal of fluid and replacement by air, and secondly, an over-exposed film to show the outlines of trachea and bronchi. In this particular case the artificial pneumothorax did not help to localize the growth as it has in other cases. The over-exposed films with the Bucky diaphragm did however give very definite information as Dr. Hampton has shown. The left main bronchus is clearly shown to be encroached upon by the tumor, and the picture shown in the x-ray film is the exact picture shown at autopsy.

DR. ALLEN G. BRAILEY: We were struck with the fact that he was fifty-seven and had already had two major illnesses during two years. He previously had been well and it was a temptation to connect this illness with one of the other two. He certainly had coronary thrombosis and the story of right upper quadrant pain accompanied by jaundice and clay-colored stools left little doubt about cholelithiasis. As a matter of fact the suggestion was made by one who saw him of infarct of the lung. But six months had elapsed since he had had an episode that possibly suggested another coronary occlusion as a source of emboli. We came to the same conclusion as Dr. Blake, that it was carcinoma, most likely primary in the bronchus.

DR. HAMPTON: He had an abdominal film which I did not demonstrate. It shows small bowel dilatation with gas. He also had a Graham gall bladder examination which was positive.

### CLINICAL DIAGNOSIS

Carcinoma of the lung.

### DR. GERALD BLAKE'S DIAGNOSES

Primary carcinoma of the lung with abdominal metastases.
Intestinal obstruction.
Old coronary occlusion.
Cholelithiasis.

### ANATOMIC DIAGNOSES

Primary carcinoma of the left primary bronchus with metastases to the adrenals, jejunum, appendix and mesentery.
Lobar pneumonia, left lower lobe.
Acute serofibrinous pleurisy.
Coronary sclerosis with occlusion of the left descending branch.
Infarct of the heart, old.
Choledocholithiasis.
Healed pulmonary tuberculosis, bilateral, apical.
Intestinal obstruction.
Operative wound: catheter jejunostomy.
Arteriosclerosis.

### PATHOLOGIC DISCUSSION

DR. MALLORY: The autopsy here showed a typical primary carcinoma of the left main bronchus which narrowed the lumen, I think, both by the internal growth and the external pressure of the larger tumor mass. The tumor had also directly invaded the pericardium, as primary carcinoma of the lung sometimes does, had grown along the pulmonary veins, and a nodule two centimeters in size of tumor tissue was present within the pericardial cavity. Metastases had developed and were somewhat unusual in distribution. We found metastases in both adrenals, the most typical form of metastasis from cancer of the lung in our series of cases here; but we also found a metastasis in the jejunum and not until it was examined histologically could we be certain that it was not a primary carcinoma of the small intestine. It involved the mucosa and muscularis of the bowel, was deeply ulcerated in the center, and had all the gross characteristics of a primary carcinoma. There was another metastatic nodule occupying the midportion of the appendix, which is an unusual site for a metastasis. The histologic examination however, shows very clearly that it is a characteristic oat cell carcinoma of the lung and the metastases in the intestinal tract are of the same structure.

The various other episodes in his past history were also successfully accounted for. We found a well-marked old fibrous tuberculosis at the right apex, a sharply localized old infarct at the apex of the left ventricle and a complete occlusion of the descending branch of the left coronary artery. The gall bladder was free from stones, but a stone was found just at the junction of the hepatic ducts, and the papilla of Vater was filled with fine sand-like material.

I think one point of distinct interest about the case is that because of previous x-ray examinations we were able to check fairly accurately the length of time which he had this carcinoma of the lung. So often we have no leads whatever as to the duration of the cancer. In this case we can be quite sure that it is less than a year's duration.

A PHYSICIAN: What was the cause of the intestinal obstruction?

DR. MALLORY: Strangely enough it was not one of the metastatic nodules but a cord of fibrous tissue extending from the omentum to the sigmoid which completely invaded a loop of terminal ileum.

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## CASE 21262

### PRESENTATION OF CASE

A fifty-two year old Italian housewife entered complaining of an abdominal tumor.

Six months before entry the patient developed fleeting joint pains, first in her elbows, then in her knees and finally in her hands. No more than two joints were ever involved simul-

taneously. At about the same time she noticed every morning a profuse generalized sweating which disappeared after she got out of bed. She felt quite tired and required more sleep than usual. A physician said she had the "grippe" but nothing was done in spite of a continuation of her symptoms until two months before entry. At that time the joint pains and night sweats had stopped but malaise had continued. She visited another physician who told her she had an abdominal tumor for which he gave her some medicine. Her symptoms continued and finally, three days before entry, she consulted another physician who immediately referred her to the hospital. She had lost eighteen pounds during the past six months. During this same period she had slight shortness of breath upon exertion but no orthopnea, cough or sputum. Her appetite had been poor and she had become constipated, requiring catharties about once a week. There was, however, no history of hematemesis, nausea or vomiting. The menopause had occurred five years before entry. There was no history of bleeding since then.

Her family history is non-contributory.

She had been married thirty years. Her husband and two children were living and well. She had had one miscarriage.

Physical examination showed a fairly well-developed and nourished woman in no acute distress, showing evidence of recent weight loss. The heart and lungs were negative. The blood pressure was 130/80. The abdomen was protuberant and flaccid. In the right upper quadrant and extending down to the level of the umbilicus was a large, non-tender, hard, irregularly surfaced, freely movable mass 10 by 14 centimeters. Pelvic and rectal examinations were negative.

The temperature was 99°, the pulse 90. The respirations were 24.

Examination of the urine was negative except for a green test for sugar. The blood showed a red cell count of 3,930,000, with a hemoglobin of 70 per cent. The white cell count was 9,000, 61 per cent polymorphonuclears. Three stools were brownish gray in color and showed positive guaiac tests. The nonprotein nitrogen of the blood was 26 milligrams. An echinococcus skin test was negative. A Hinton test was negative.

A barium enema passed through the ileocecal valve. There was a large defect on the upper border of the proximal half of the transverse colon produced apparently by the large abdominal mass. In a lateral view the tumor appears to lie anterior to the bowel but still not in contact with it. There was no evidence of obstruction. It was felt that the tumor was not an intrinsic lesion of the colon. A gastrointestinal series showed that the second and third portions of the duodenum were displaced backward and to the left by the mass which was below and anterior to the pancreas. The barium passed readily through the entire duodenum, entered the jejunum and extended to a point just below the second portion of the duodenum. At this point it entered the mass and became irregular and somewhat dilated. At the end of five hours there was still some barium in the jejunum at the point of the lesion. An intravenous pyelogram was negative.

On the seventh day an exploratory laparotomy was performed. She did poorly postoperatively and died on the second postoperative day.

## Differential Diagnosis

Dr. Grantley W. Taylor: On the strength of the history there is very little to localize her trouble or to identify any marked characteristics. She had just been run down. The joint pains, the night sweats and the previous diagnosis of "grippe" all suggest that there may have been some inflammatory element in the onset of the disorder; but they had cleared up. The slight shortness of breath, the loss of weight, and the fatigue, requiring more sleep, would, I think, form a part in any picture of a debilitating condition. There is very little pointing to the gastrointestinal tract except the diminution of appetite and, of course, the constipation. Catharties once a week do not indicate any very marked change in her bowel habits.

"In the right upper quadrant . . . was a non-tender, hard, irregular surfaced, freely movable mass measuring 10 to 14 centimeters." That is obviously the explanation of all that ails her and we have to try to make up our minds what this mass is. I think the history helps us very little in locating the mass. We can get no farther with our physical examination except to say it is in the upper quadrant, non-tender, irregular surfaced, and hard, all of which argue for its being carcinoma or neoplasm of some sort. It is freely movable, which, it seems to me, with a mass of that size would make it much more likely to be intraäbdominal than retroperitoneal; and that is almost as far as we can go in the strength of her physical examination.

"Three stools were brownish gray in color and gave positive guaiac tests." That statement is significant that the gastrointestinal tract is something to be scrutinized with special attention.

The white cell count of the blood and her essentially normal chart are in conflict with the suggestion we got earlier from the night sweats and the history of grippe that there may be a strong inflammatory element in this mass. We know that a long-standing inflammatory process will let a chart subside and let a leucocytosis subside. But it seems to me something might have been picked up, if we are dealing with a

process primarily infectious or inflammatory, in the shape of change in the differential blood count or slight temperature or elevation of leucocytes.

The history, physical and laboratory findings do not do very much more than insist on this tumor and so we turn to the x-rays which are very interesting and very difficult for me to interpret. The things which would be likely to lie anterior to the colon on the right side would be the liver, or possibly some mass extending from the stomach across the midline to the right side. Most of the other intraäbdominal structures are retrocolic. The question is whether it was not involving the anterior abdominal wall itself, but that tends to be negated somewhat by the freely movable character of the mass.

"In a lateral view the tumor appears to lie anterior to the bowel but not in contact with it." "The duodenum is displaced to the left." This just emphasizes that the mass is a large one and that it is in the right upper quadrant. "The mass is below and anterior to the pancreas." I think that the radiologist who will tell you exactly where the pancreas is, and that a mass is below the pancreas or above it, is a pretty courageous fellow; but that may not be true.

"The barium passed readily through the entire duodenum, entered the jejunum and extended to a point just below the second portion of the duodenum. . . ." As regards that point, I think we must see the films. According to the interpretations we have something in front of the colon, below and anterior to the pancreas, distorting the duodenum, and then the barium apparently in the jejunal region showing irregularities.

## X-ray Interpretation

Dr. Aubrey O. Hampton: We examined the chest, urinary tract, stomach and colon. The chest is fairly normal except for this area of density at the right lung root which may be an enlarged gland. It may be a calcified gland. The chest is otherwise normal. The diaphragm is moderately high on both sides. The heart, mediastinum and esophagus were also examined and as far as I can tell are normal. This film of the urinary tract shows kidney outlines which are perfectly normal. There is an area of density in the region of the palpable mass and this looks like a soft tissue mass. I think this film must have been taken after barium or some opaque mixture and these two shadows which are as dense as calcium are within the mass. It is probably barium. I think the uterus shows there. The bladder is a little more to the left than normal. There could be something low down in the pelvis just to the right of the uterus pushing the uterus to the left. That very queer looking shadow which looks like dye in the ureter I would like to check before I go any farther. We have to assume that it is a gas shadow in the bowel and the ureter goes through it. I do not see how it could be connected with the urinary tract. Here again is the soft tissue mass and an irregular gas shadow in the center of it. The gas may be within the small bowel as it passed through the mass, according to the note.

This is the location of the mass in the lateral view when barium is in the colon. Here again the center of the mass has a mottled appearance as though there were some opaque mixture and gas within it. The colon dips down behind and below it. I do not know just how they concluded that the mass was not in contact with the colon. It had to be to do this.

Dr. Taylor: Could not the colon have been pushed to the extreme right side by a mass behind it?

Dr. Hampton: It is pushed downward, to the right and backward.

Dr. Taylor: In a lateral view it would tend to lie on the right side, almost back to the gutter, even if the mass were retrocolic.

Dr. Hampton: That may be due to the transverse portion running downward and with a little rotation looking as though it were pushed backward. I think that is the solution, although this is a true lateral view and it looks as if the colon were pushed backward, perhaps more than it really is. I think we are justified in saying that the mass was below the pancreas because we can localize the pancreas by identifying the duodenal loop, if the pancreas is not ectopic we know where it is. I think your criticism is a little bit strong.

I suppose this is the film taken after the motor meal. I assume this is barium in the jejunum occupying the area of the mass. I do not know what other structure it could be. It is not the stomach and that is the only other thing that would fill with barium and look like that. The lumen of the jejunum must be considerably enlarged, grossly abnormal, with multiple filling defects in it. I think this film shows some evidence of invasion of the transverse colon extrinsically.

## Differential Diagnosis Continued

Dr. Taylor: I did not want to make an issue about that statement in the x-ray report; except that if the mass is in front of the colon, and if by x-ray it definitely involves the jejunum, it is very hard to reconcile those two statements. The colon and omentum we know hang down as an apron on the lower border of the stomach, covering over all the small intestines in the abdomen which lie up and beneath the colon. This mass definitely involves the jejunum. There is no statement by the radiologist—it is probably

not necessary—whether it was considered extrinsic or intrinsic as regards the jejunum. There is a large filling defect involving that part of the jejunum shortly after the barium leaves the duodenum. The problem is to decide what the nature of that defect is. Curiously enough the jejunum is part of the intestinal tract which is least subject to intrinsic diseases although it is very commonly involved in anything like hernias, obstruction, mesenteric thrombi and that sort of thing. Diseases of the jejunum itself are rare. There have been a series of primary carcinomas of the small intestine reported but so few that almost every case is worthy of being reported. Lymphoma we know involves that part of the intestinal tract, and a great many tumors of the small intestine prove to be lymphomas. It seems to me that it would be rather difficult to picture a tumor secondarily involving the jejunum taking its origin in some other part of the abdomen, although this original description of the mass which is freely movable raises the question of the entire omentum being involved with metastatic malignancy from some other source, as the ovary, stomach or even the colon. Now I am unable to state on the basis of the evidence available which one of these neoplastic processes may be present in the jejunum.

It seems to me worthwhile to revert again to the possibilities of an inflammatory process in the small intestine as perhaps giving this picture. The question will arise whether this could be regional ileitis and secondary abscess formation which becomes open to barium as it is passing through the region. My own impression is that it would be rather unlikely. An appendix abscess with serosal involvement of the small intestine would give rise to a thing of this sort. We have all seen appendicitis and appendix abscess as the explanation of the most bizarre pictures in the abdomen. I do not know of anything else that would be likely to enter into that picture. It is considerably higher in the small intestine than we find lesions of tuberculosis with secondary inflammatory changes.

My impression is that this patient was explored with the diagnosis of inoperable malignancy of the jejunum and that the surgeon who explored her was hopeful enough to think he was going to find a condition he could do something about. I think that when he got in he found it was something he could not do anything about and took a biopsy for the pathologist. My impression would be that it was inoperable,—a mass as extensive as this is described to be, can seldom be removed even though on the surface it appeared to be freely movable. The best bet I can make is primary neoplasm in the jejunum, perhaps primary carcinoma and perhaps lymphoma. That is the best I can offer and it is not very good.

DR. TRACY B. MALLORY: Dr. Leland who operated on this patient is not here, but Dr. Lyons was his assistant. He will tell us about it.

### CLINICAL DISCUSSION

DR. CHAMP LYONS: At operation the mass was obviously inoperable. Through a right abdominal incision the transverse mesocolon and omentum were found attached to a slightly movable right upper quadrant mass which was obviously very diffusely malignant. In endeavoring to ascertain whether it arose from retroperitoneal tumor or primary malignancy of the bowel at that level, it was felt that it was wise to remove some of the attached omentum and in so doing explore a loop of bowel which lay anteriorly in the abdomen. When that was freed off it quite suddenly gave way and opened into the lumen of the intestine. This lumen was clear of barium but the anterior position of the loop and general relationship as far as we could determine without dissecting further suggested that this was more likely a carcinoma of the transverse colon than some primary lesion of the jejunum which was apparent from the x-ray studies. A wick was placed into the opening in the bowel. It was impossible to suture or effect any closure of the bowel and the abdomen was closed after the biopsy was taken. The operation was done under pantopon, scopolamine and local anesthesia.

### CLINICAL DIAGNOSIS

Carcinoma of transverse colon.

### DR. GRANTLEY W. TAYLOR'S DIAGNOSES

Primary malignancy of jejunum; ? carcinoma, ? lymphoma.

### ANATOMIC DIAGNOSES

Malignant tumor, probably carcinoma of the jejunum, with extension to colon and regional metastases.
Peritonitis, localized, acute.
Multiple infarcts of the spleen.
Operative wound: Exploratory laparotomy.

### PATHOLOGIC DISCUSSION

DR. MALLORY: At autopsy we found a very large tumor mass in the right upper quadrant which involved the first portion of the jejunum and the transverse colon. As we traced down the jejunum we found that it suddenly increased in diameter from the normal size to a tube three times as wide as normal, maintained this greater diameter for a length of nearly 10 centimeters and then shut down again to normal size. There was no obstruction. The mucosa was grossly irregular and all layers of the jejunal wall were replaced by tumor. The tumor extended by direct contact into the wall of the

transverse colon which was extensively infiltrated but evidently from the outside in, since the mucosa was perfectly normal, so we felt quite certain that the tumor was primary in the jejunum and only secondarily involved the colon. When it comes to decide what kind of tumor it is, after microscopic slides we are no better off than Dr. Taylor was from the clinical history. To be perfectly frank, I have not the faintest idea what the tumor is. It is an extremely undifferentiated, highly malignant tumor. So far as cytology is concerned I do not believe it is lymphoma, but I cannot say whether the cells are epithelial. I have called it carcinoma but it is little more than guesswork.

DR. TAYLOR: Were there any metastases?

DR. MALLORY: In some of the regional nodes, no distant ones.

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## A BIBLIOGRAPHICAL STUDY OF SYPHILIS

THE widespread influence of a book can partly be judged by a bibliography of its various editions, reprintings and translations. A persistent demand by the public over a long period of years can only mean a continued value, appreciated in many lands. Such was the fate of the famous medical poem *Syphilis*, written by Girolamo Fracastoro and first issued in 1530. One hundred printings have been traced, published over a period of four hundred years. A carefully composed bibliography of them is now at hand.* the work of two devoted medical humanists.

Whatever the main interests of a physician may be he cannot but be stimulated by this superb bibliographical study. Although one may not revel in dropped lines, "ghosts", collations, variants, canceled leaves, chain lines and watermarks, gatherings or *Corsivo grande* type, one can appreciate the detective instinct which led the authors to seek out these hundred editions, collate them in great detail and correct the proof of their book! Although this effort, calling for exact observation is valuable to scholars throughout the world, the value to the average reader comes in the detailed notes regarding the printers, the translators, former owners of editions and the availability of existing copies. Fulton's large personal collection must come first although other American and British booklovers, such as Cushing, Klebs, Keynes, Krumbhaar, Power and others, have a considerable number of copies. Copies known to be in libraries are listed, at least those in the more important centers in Europe and America. A remarkable copy of the first edition, printed on vellum, is now in the Bibliothèque Nationale, Paris. Its curious history has been worked out in some detail by Mr. L. L. Mackall.

Thus one threads together the editions of a book, appreciative of the many hands that made them. Fine and poor, well or ill transcribed, shabby printing and superb typography, cheap reprints and imposing folios, stand in line, one hundred strong to testify to the enduring love of scholars and readers for a poem which, although only secondary in importance, gave us the name for one of the greatest scourges of mankind.

*Baumgartner, Leona and Fulton, John F. A bibliography of the poem *Syphilis sive Morbus Gallicus* by Girolamo Fracastoro of Verona. New Haven: Yale University Press, 1935. Pp. 157 (portrait).

## CHIROPRACTIC STILL

THE licensing of the chiropractor, who seems to be proud of the fact that he cannot make a diagnosis, and by that license authorizing him to treat any human ailment by chiropractic analysis of the human spinal column and by manual adjusting of the segments and articulations thereof, seems to many persons a depth of degradation to which the Commonwealth of Massachusetts cannot fall.

Some shrewd observers, are, however, more hesitant to set any limit to the capacity for descent, and objectionable as is the principle of licensing substandard practitioners of medicine, the actual provisions of House Bill 1157 go beyond anything that has come before the legislature in recent years. Not only do the chiropractors ask that they be permitted to treat any disease by adjustments of the spine, but they would arrogate to themselves the whole field of diagnosis of disease of the spine, to the exclusion of all persons not registered as chiropractors.

Section 6 reads as follows: "Any person who shall practice or attempt to practice or use the science or system of chiropractic . . . without having complied with the provisions of this act (namely become registered as a chiropractor) shall be guilty of misdemeanor and upon conviction thereof shall be fined not less than fifty dollars nor more than five hundred dollars, or be

imprisoned in the house of correction not less than thirty days nor more than one year or both."

What is this "science or system of chiropractic" which may be used only by a duly registered chiropractor? The definition is found in Section 10: "The system, method or science, commonly known as chiropractic, or the practice of chiropractic, is defined to be the science of spinal examination; the adjusting of the segments and the articulations of the human spinal column by hand only. This definition is inclusive and any and all other methods are hereby declared not to be chiropractic."

The exact meaning of this jumble of words is not clear, but an entirely reasonable interpretation of the two sections is that if a duly registered physician, not also duly registered as a chiropractor, makes a spinal examination on any patient he will be violating the provisions of this bill, and be subject to haling into court for this misdemeanor, with a possible fine of $500.00 and a year in the house of correction.

Such unwarranted attempted interference with the rights and duties of duly registered physicians by a group who boast of their own ignorance and for whose views as to the cause of disease not a particle of scientific evidence has ever been produced, is perhaps characteristic of the times in which we live, but it demands vigorous and persistent opposition by the whole medical profession. Perhaps the members of the legislature do not realize for what the chiropractors are asking. It is the duty of the medical profession to enlighten them.

## THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

O'HARE, JAMES P. M.D. Harvard University Medical School 1911. Assistant Professor in Medicine, Harvard Medical School. Senior Associate in Medicine, Peter Bent Brigham Hospital. His subject is "Management of Bright's Disease and Hypertension." Page 1197. Address: 520 Commonwealth Avenue, Boston, Massachusetts.

ROBEY, WILLIAM H. M.D. Harvard University Medical School 1895. Clinical Professor of Medicine, Emeritus, Harvard University. Consulting Physician to the Boston City Hospital, Norwood, Milton, and Marlborough Hospitals. Former President, Massachusetts Medical Society. His subject is "President's Address." Page 1203. Address: 202 Commonwealth Avenue, Boston, Massachusetts.

GIFFIN, LEWIS A. B.S., M.D. Harvard University Medical School 1935. Appointed Interne, July 1935-1937 Bellevue Hospital, Second Medical Division, New York City. His subject is "Poradenolymphitis". Page 1209. Address: 27 Arlington Road, West Hartford, Conn.

LAWRENCE, CHARLES H. A.B., M.D. Harvard University Medical School 1908. Physician of the Medical Department and Chief of the Endocrine Clinic, Boston Dispensary. Instructor in Medicine, Tufts College Medical School. Address: 520 Commonwealth Avenue, Boston, Massachusetts. Associated with him is

FEIGENBAUM, JACOB. M.D. McGill University Faculty of Medicine, Montreal, Quebec, 1925. Assistant Physician, Boston Dispensary. Assistant in Medicine, Tufts College Medical School. Address: Boston Dispensary, Boston, Massachusetts. Their subject is "The Treatment of Acne Vulgaris with Pregnancy Urine Extract." Page 1213.

CLAIBORNE, T. S. B.A., M.D. University of Virginia Department of Medicine, 1932. Associate in Medicine, Lahey Clinic, Boston. His subject is "Bromide Intoxication." Page 1214. Address: 605 Commonwealth Avenue, Boston, Massachusetts.

BOWDITCH, INGERSOLL. A.B., S.B. Trustee and Treasurer of the Faulkner Hospital and the Jamaica Plain Dispensary. Former Treasurer of the Community Health Association and Sharon Sanatorium. Now President, Sharon Sanatorium. Member of the American Hospital Association. Vice-President, Hospital Council of Boston. His subject is "Doctors, Hospitals and Legislation." Page 1216. Address: 32 Woodland Road, Jamaica Plain, Massachusetts.

MARSHALL, GEORGE G. University of Vermont College of Medicine, 1893. F.A.C.S. Member of Staff, Rutland Hospital and Proctor Hospital. Former Vice President and now President of the Vermont State Medical Society. His subject is "The Optic Disk as an Aid to Diagnosis in Central Nerve Lesions." Page 1220. Address: Rutland, Vermont.

## The Massachusetts Medical Society

### SECTION OF OBSTETRICS AND GYNECOLOGY

C. J. KICKHAM, M.D., *Chairman*, 524 Commonwealth Ave., Boston, Mass.

R. S. TITUS, M.D., *Secretary*, 472 Commonwealth Ave., Boston, Mass.

RÉSUMÉ OF VALUE OF BIOLOGICAL PRODUCTS IN GYNECOLOGY

As insight into the physiology of the female reproductive system and its adjunctive sex characters increases, physicians look hopefully to

this newer knowledge for therapeutic innovation that will more certainly relieve some of the common, functional gynecological disturbances. The prospect of such clinical benefit seemed bright indeed when hormones derived from the urine of pregnant women were found to have a stimulating effect on rodent ovaries, very similar to that of the follicle-stimulating hormone of the anterior pituitary. Such effective substitutes are particularly desirable for until only a few months ago there was no preparation, suitable for human use, of the anterior pituitary gland or its hormones which had any appreciable effect on the ovaries of even mice, much less monkeys or human beings. Three widely advertised preparations of the pregnancy-urine or anterior pituitary-like hormone are on the market for clinical use. They are Antuitrin-S of Parke, Davis & Co., Follutein of Squibb & Sons, and Antophysin of the Winthrop Chemical Co. They are all three potent preparations and will stimulate follicle ripening and corpus luteum formation in the ovaries of immature, intact rodents and in rabbits. It is most unfortunate, but a fact which clinicians mindful of their patients' good must realize, that not one of these preparations has been shown to have any good stimulating effect on human ovaries. On the contrary it has been clearly shown in the case of one of them, at least (and they are all three closely similar), that it has no stimulating effect good or bad on the ovaries of the macaque[1], a monkey in which the sex physiology is much more similar to human beings than is the reproductive mechanism of any other laboratory animal. Furthermore, two preparations have been shown to have no appreciable stimulating effect on human ovaries[2].

Because these preparations of so-called ovary-stimulating hormone, therefore, cannot be used to stimulate human ovaries, does not mean, however, that they are without therapeutic value. It has been shown by several clinicians that these pregnancy-urine hormones in divided doses totaling from 500 to 2500 rat units will relieve or cure about 60 per cent of women suffering from dysfunctional uterine hemorrhage. They have little if any effect on pure menorrhagia, or on the rhythm of cycles habitually shorter than the common ones of about four weeks. They are also notably ineffective in relieving the excessive flow of the young girl from fifteen to twenty-two years of age. They must not be prescribed for any woman with metrorrhagia until cancer has been ruled out.

The results from the use of this pregnancy-urine hormone in essential dysmenorrhoea are not constant. Perhaps 50 per cent of patients will get relief from the severe pain if given from 500 to 1000 rat units in divided doses during the week preceding the expected period. Such results can have little practical value as such dosage costs several dollars and has a purely temporary effect, limited usually to only one period.

Prephysin (Chappel) is the only marketed preparation of that particular anterior pituitary hormone which affects the ovaries of laboratory animals, of which the writer is aware. Experience with preparations of the pregnancy-urine extract of anterior pituitary-like hormone, discussed above, forces us to await carefully studied results in monkeys and in human beings before using Prephysin clinically. It, too, is expensive, and, unlike the other hormones, it may be dangerous.

The lactation-stimulating hormone, prolactin, is marketed by Squibb & Sons. The writer has had no experience with it. Kurzrok and his associates have reported good results[3].

A third group of new endocrine products, those actually containing the female sex hormone, estrin, folliculin, or theelin, have undeservedly enjoyed an even greater popularity than the anterior pituitary-like hormone already discussed. They can be taken by mouth, as this sex hormone, unlike the anterior pituitary group, is not destroyed in the intestinal tract. It is marketed as Theelin by Parke, Davis & Co., Progynon by Schering, Amniotin by Squibb & Sons; and a closely related product, as Theelol by Parke, Davis & Co., and as Emmenin by Ayerst, McKenna & Harrison. All these cause estrus or "heat" in the experimental animal, and in doing so they stimulate short-lived proliferative changes in the uterus, tubes, cervix, vagina, and breasts. If given during several days, weeks, or months, as the case demands, in divided doses totaling thousands of rat units, they will cause similar changes in these same end-organs of the human female. They do not stimulate the ovaries, but are purely substitutive in action. The changes caused by anything less than amazingly high doses of many tens of thousands of rat units, have probably about as much effect on the patient's own ovarian mechanism as hair dye has on the chromatophores[4]; and menstruation caused by them has about as much effect on the patient's sex physiology as the weeping from onion vapor has on her emotions.

They are notably useful to relieve symptoms of the menopause and for acute vaginitis in the prepuberal child. Though an adequate trial is fairly expensive there is some justification for their being used in stubborn cases of essential dysmenorrhea and in sterility, after demonstration that ovulation and insemination are normal, and the tubes patent. They are very expensive, and their indiscriminate use in sterility as in menstrual disturbances and frigidity is shameful. Somewhat mysteriously they have been effective in relieving breast pain, but their use in

the presence of cystic mastitis must be guarded by an alert respect for cancer.

Still another hormone, that of the corpus luteum, progestin, is now sold by Schering as Proluton. One rabbit unit will cause progestational changes in the endometrium of one rabbit if this endometrium has been prepared by sufficient estrin. *Fifty* rabbit units will, under the same condition, cause barely perceptible changes of the same character in the human amenorrheic. Anything less than repeated doses of five rabbit units seems not to affect the bleeding mechanism in human beings. Since, like the other newer preparations, it is expensive, and sold only in ampoules containing *one twenty-fifth of one rabbit unit*, its use in clinical medicine should await further careful endowed trials. The use of such comparatively tiny doses in early pregnancy when the patient's own corpus luteum must be functioning to some extent seems of very doubtful value.

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2. Rock, John: The effect of pregnancy-urine extracts on the ovaries of patients with amenorrhoea. (In process of publication.)
3. Kurzrok, R., et al.: The clinical use of prolactin. Endocrinol. 18: 18 (Jan.-Feb.) 1934.

## MASSACHUSETTS LEGISLATIVE NOTE

**House 1157.** Petition of Henry J. Kennedy for establishment of a board of examination and registration to regulate the practice of chiropractic.

Report ought not to pass.

Filed in House.

## MISCELLANY

### HEALTH OFFICERS' MONTHLY STATEMENT OF VENEREAL DISEASES REPORTED

APRIL, 1935

This statement is issued monthly for the information of health officers in order to furnish current data as to the prevalence of the venereal diseases. The following reports were received from State Health Officers. The figures are preliminary and subject to correction. It is hoped that this will stimulate more complete reporting of these diseases. The New England figures are as follows:

| State | Syphilis: Cases reported during month | Syphilis: Monthly case rates per 10,000 population | Gonorrhea: Cases reported during month | Gonorrhea: Monthly case rates per 10,000 population |
|---|---|---|---|---|
| Connecticut | 206 | 1.25 | 72 | .44 |
| Maine | 36 | .45 | 48 | .60 |
| Massachusetts | 498 | 1.15 | 508 | 1.18 |
| New Hampshire | 12 | .26 | 7 | .15 |
| Rhode Island | 76 | 1.08 | 46 | .66 |
| Vermont | 12 | .33 | 35 | .97 |

Surveys in which all medical sources have been contacted in representative communities throughout the United States have revealed that the monthly rate per 10,000 population is 6.6 for syphilis and 10.2 for gonorrhea.—*Treasury Department, Public Health Service.*

### RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR MAY, 1935

| Disease | May, 1935 | May, 1934 | 5 Yr. Average* |
|---|---|---|---|
| Anterior Poliomyelitis | 3 | 4 | 4 |
| Chicken Pox | 1129 | 993 | 1001 |
| Diphtheria | 39 | 46 | 130 |
| Dog Bite | 1316 | 843 | 721 |
| Cerebrospinal Meningitis | 10 | 4 | 11 |
| German Measles | 9786 | 148 | 466 |
| Gonorrhea | 524 | 535 | 521 |
| Lobar Pneumonia | 428 | 329 | 348 |
| Measles | 1751 | 5724 | 4280 |
| Mumps | 674 | 576 | 810 |
| Scarlet Fever | 981 | 1005 | 1395 |
| Syphilis | 399 | 405 | 386 |
| Tuberculosis (Pulmonary) | 342 | 342 | 374 |
| Tuberculosis (Other Forms) | 51 | 38 | 48 |
| Typhoid Fever | 16 | 7 | 12 |
| Undulant Fever | 3 | 5 | — |
| Whooping Cough | 504 | 1318 | 928 |

RARE DISEASES

*Anterior poliomyelitis* was reported from Cambridge, 1; Malden, 1; Weymouth, 1; total, 3.

*Dysentery (Amebic)* was reported from Boston, 1.

*Dysentery (Bacillary)* was reported from Melrose, 1.

*Encephalitis lethargica* was reported from Springfield, 1.

*Epidemic cerebrospinal meningitis* was reported from Amherst, 1; Boston, 1; Brookline, 1; Ludlow, 1; Malden, 1; Melrose, 1; Quincy, 1; Salem, 1; Spencer, 1; Worcester, 1; total, 10.

*Pellagra* was reported from Brockton, 1; Needham, 1; Revere, 1; Waltham, 1; total, 4.

*Septic sore throat* was reported from Boston, 7; Dunstable, 1; Everett, 1; Fall River, 1; Lowell, 2; Lynn, 1; Medford, 2; Newton, 1; Somerville, 1; Watertown, 1; total, 18.

*Tetanus* was reported from Arlington, 1.

*Trachoma* was reported from Boston, 1.

*Undulant fever* was reported from Amesbury, 1; Amherst, 1; New Bedford, 1; total, 3.

Diphtheria was reported to about one-tenth of its reported incidence of ten years ago.

Typhoid fever shows an increase over last year due to a local outbreak of eleven cases.

*Based on the figures for the preceding five years.

Infantile paralysis, tuberculosis other forms, and mumps show nothing remarkable.

Epidemic cerebrospinal meningitis seems to be on the increase throughout the country in general.

German measles continues on in epidemic proportions.

Lobar pneumonia and chicken pox were somewhat more prevalent than last year.

Whooping cough and scarlet fever show a decreased incidence below both the previous year and the five year average.

Although pulmonary tuberculosis shows to date an increase in reported cases, the deaths through March are running slightly lower than in 1934.

Measles, while low for the State as a whole, is epidemic in several communities.

## CORRESPONDENCE

### COMMENTS ON ARTICLES APPEARING IN THE NEW ENGLAND JOURNAL OF MEDICINE

Editor, *New England Journal of Medicine*,

June 20, 1935.

May I suggest that your correspondent from Worcester, who castigates the article on German Health Insurance by Davis and Kroeger and incidentally the *Journal* for publishing it, read most carefully, for the good of his soul, the excellent utterance of Dr. Stewart Roberts, of Atlanta, in the issue which contains his letter, namely that of June 13.

The *Journal*, of course, will not accede to his demands that it shirk half its duty by failing to inform its readers on the social and economic aspects of Medicine. On the contrary, it will continue to give us fine leadership in such problems.

Sincerely yours,

J. H. MEANS.

### OFFICIAL ACTIONS OF THE BOARD OF REGISTRATION IN MEDICINE

State House, Boston,
June 20, 1935.

Editor, *New England Journal of Medicine*,

This is to inform you that Dr. Rafael Reyes Garcia, formerly of 353 Dwight Street, Springfield, Massachusetts, whose license to practice medicine was revoked December 20, 1934 has been today reregistered by the Board of Registration in Medicine as a qualified physician in this Commonwealth.

Yours very truly,

STEPHEN RUSHMORE, M.D., *Secretary*.

## REPORTS OF MEETINGS

### SURGICAL CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

One of the regular Thursday afternoon surgical clinics was held on the twenty-eighth of March. Dr. Elliott C. Cutler presided. The first case presented was that of a child who had had staphylococcus septicemia for four months. The whole femur and clavicle were the seat of an osteomyelitis. There was empyema on one side. She had run a temperature of one hundred and three degrees for two months, and her body presented multiple sinuses, many of which were healing. Donors were being immunized with her own staphylococcus.

The second case also had an empyema, this time caused by group I pneumococcus. Five days before entry she had had a chill and a fever of one hundred and three degrees, and had been irrational for two days, together with a cough productive of rusty sputum. Three days after the crisis her fever had risen and fluid was found in the right chest.

A rib resection was done in the posterior axillary line at the level of the eighth rib and a considerable amount of pus was withdrawn. She was shown two weeks after operation as a classical example of the simplest kind of empyema.

A forty-five year old housewife had complained of pain on respiration in the right chest with cough and fever. Although her fever had fallen, she continued to have a leucocytosis and, upon putting a needle into the chest, foul pus was found, so that a rib resection was thought necessary. At the time she was shown the cavity which had contained encapsulated pus was decreased in size, although she was still running a temperature.

Dr. Cutler said that chronic empyema is due to a retained foreign body, tuberculosis or failure to place the drainage tube into the base of the cavity.

The next patient was a forty year old woman who had had difficulty in walking, and pain in her legs for three months. Three members of her family had died of tuberculosis. She had had a tumor removed from her right ovary in 1930. She had considerable pain in her lower back and a temperature of one hundred degrees. There was considerable discharge from an ulcerated cervix, and an x-ray of her lumbar region showed both destruction and production of bone in one vertebra. Doctor Sosman demonstrated the marked irregularity in the lateral view of the fifth lumbar vertebra with a narrowing of the intravertebral disc. The lesion was largely destructive and there were several small loose fragments, both of which were against a diagnosis of neoplasm. This was probably an inflammatory condition, most likely tuberculosis.

X-rays were shown of a case with a spine tumor. There was a hollowing out of one vertebral body. Six months later this had softened and herniated anteriorly. Heavy doses of x-ray were administered, and since that time it has been healing, with a shell of newly formed bone. The last examination showed the same process invading both vertebrae above and below. The exact diagnosis has not been made.

The last patient was a sixty-four year old man with tabes. He broke his leg six weeks before entry. This had been set in an outside hospital and there had been very little growth of new bone. In con-

nection with this patient a frame was demonstrated which may be used to reduce fractures by means of skeletal traction. It holds the reduced fracture in place while the plaster cast is put on.

## THE MALDEN TUBERCULOSIS AND HEALTH ASSOCIATION

The Malden Tuberculosis and Health Association held its twenty-fourth annual meeting, which began at a dinner, at the Y. W. C. A. in Malden, Tuesday evening, June 11. Of special interest was the selection of Mrs. Frederick R. Makepeace for secretary in place of Mrs. F. Anna Green, secretary since 1911, who resigned in the spring. Mrs. Green is the widow of Dr. J. G. Green, founder of the society, and its president till his death, several years ago. The two officers, working in perfect harmony, did much toward establishing Malden in its advanced place in matters of health and sanitation.

At the business meeting, formal reports were first in order, followed by the election of officers to serve during the coming year. The result of the election was: President, Dr. Samuel Hoberman; First vice president, Dr. Carroll C. Burpee; Second vice president, Farnsworth G. Marshall; Third vice president, Mrs. Ralph M. Kirkland; Fourth vice president, Dr. Clement F. Lynch; Treasurer, Charles McKenzie; Secretary, Mrs. Frederick R. Makepeace; Auditor, Clarence W. Clark; Honorary director, Mrs. Costello C. Converse; Directors, Rev. Seth R. Brooks, George H. Corey, Joshua T. Day, Clarence S. Doane, Edward V. Fisher, Mrs. Lewis A. Francis, Mrs. Samuel Hoberman, Robert A. Hodgdon, Mrs. Thornton Jenkins, Mrs. Esther Jordan, Mrs. Cora Kelleher, Charles E. Keniston, Jr., Rabbi Joseph H. Margolies, Dr. E. W. Moore, Rt. Rev. Msgr. Richard Neagle, Eugene A. Perry, Mrs. J. B. Rendle, John Ritchie, Mrs. Frank M. Sherburne and Miss Alice Walsh.

The speakers included Rep. Burt Dewar; Edward Devine, President of the Malden Health Camp Association; Frank Doucette, postmaster, representing the Elks, and interested in a number of public health projects; and John Ritchie, former president of the Malden association. The guest speaker was Dr. David Zacks, of the Massachusetts Department of Public Health, who, in an interesting talk, outlined progress in combating tuberculosis. As with other maladies, the work at first concerned itself with advanced, adult cases, with unmistakable symptoms, but now it is in the line of prevention, beginning with the child. Early diagnosis is most important; this must depend to a considerable extent on observation of the child in the home, and the realization by the parents of the need of tests and x-ray work. Toward such public education, associations, like this one in Malden, working in coöperation with the local health officers, are especially valuable.

Dr. Zacks emphasized the importance of the school physician, insisting that full-time service is necessary. Today these persons are usually only part time men, and inadequately paid at that.

The concluding exercise of the meeting was the presentation of prizes to students of the Malden High School, who were winners in an essay competition. The Association offers these prizes each year, as a part of its health education work. The subject of the competition this year was Dr. William Crawford Gorgas. The prizes, which were books, were presented by Farnsworth G. Marshall, Superintendent of Schools, who took occasion to outline the success of his department in establishing practical health education and formation of health habits as a part of the regular school program. In the lower grades, this has been exceedingly successful, and Malden has been a model for the rest of the country, but there have been serious difficulties in adapting these studies to junior high and high school grades.

The students receiving first, second and third prizes, respectively, were the following: sophomores, Francis Kenney, Henry Sanborn, Jr., and Eleanor Buffet; and juniors, Laura Chamberlain, Arlene Getchell and Audrey Lowry.

## NEW ENGLAND HEART ASSOCIATION

The regular monthly meeting of the New England Heart Association was held at the House of the Good Samaritan April 29. Dr. Bland presided. Dr. Howard B. Sprague was the first speaker, and presented two cases of rheumatic heart disease with a peculiar syndrome consisting of attacks of marked thoracic pain with an anginal distribution, which were apt to start while the patient was at rest, to continue for a considerable time, and to be associated with a marked rise in blood pressure and pulse rate. This syndrome is associated with free aortic regurgitation, and often becomes intolerable. Sir Thomas Lewis considers this to be due to spasm of visceral blood vessels, and it is perhaps significant that the attacks are relieved, only briefly, by vasodilator drugs. The first patient was a woman of twenty-six who had such attacks frequently and so severely that Dr. James C. White employed an alcohol injection on the left side followed by gradual diminution and almost complete disappearance of the symptoms, other than a slight palpitation. As is usual the patient developed a Horner's syndrome on the operated side. Doctor White described the operation, in which needles are inserted just to the left of the spinous processes of the upper four thoracic vertebrae to reach the sympathetic fibers coming from the corresponding thoracic nerves to the heart. If these can be reached and paralyzed by alcohol, complete relief of pain on this side may be expected.

The second case was a boy of fifteen who also had rheumatic heart disease with marked aortic regurgitation and attacks of severe anginal pain associated with tachycardia. During the attack the systolic blood pressure rose to over two hundred and fifty millimeters of mercury and the pain would radiate up both sides of the neck and down both arms. These had become increasingly severe so

that morphia in large amounts did not relieve them, and on one occasion an attack had led to cardiac collapse. Doctor White injected this patient likewise and obtained complete relief in the precordium, although the right side continued to be painful, and there was a small painful area above the point of successful injection on the left, suggesting that the fibers from the first thoracic segment had not been completely destroyed.

Dr. Frank Fulton reported a similar case seen at the Rhode Island Hospital. Doctor White stressed the point that these patients, although relieved of severe attacks of pain, still have some warning of the attack so that they may not overdo.

Dr. Edward F. Bland presented the second paper of the evening on "The Development of Mitral Stenosis in Young People." For some time it has been generally accepted that a mid or late diastolic murmur heard at the cardiac apex is indicative of mitral stenosis, and it is known that such may appear relatively early after rheumatic fever. He presented observations on one hundred postmortem cases of young patients dying at varying intervals after the onset of rheumatic fever, and compared them with the clinical data. In the first year only one case showed definite deformity with an anatomical stenosis of the mitral valve, and Doctor Bland believes that this patient had probably had the disease longer. In the group between one and two years fifty per cent of the patients had deformity with or without stenosis. From two to five years most of the cases showed stenosis or gross deformity, although about one-third still showed only slight thickening of the valve. About two per cent of rheumatic cases have pure aortic regurgitation without any mitral involvement. It was concluded from the above data that it takes at least two years, and usually longer, before there is important deformity of the mitral valve. The clinical records indicated that a diagnosis of mitral stenosis and regurgitation was made in sixty per cent of the one hundred cases. Cases with deformity but without anatomical stenosis showed a mitral diastolic murmur in seventy-six per cent of the cases, and sixty per cent of cases without any deformity and with only slight thickening, also showed a similar murmur. Forty-five per cent of cases with fresh vegetations also had a diastolic murmur. Therefore, in young people who have had a severe rheumatic infection and considerable enlargement (dilatation) of the heart, one must be cautious in diagnosing mitral stenosis. Such signs may completely clear up if the heart returns to its normal size.

In discussion, Dr. Paul D. White traced the history of the development of the study of the mitral diastolic murmur first described by Williams in 1830. Until recently only the presystolic murmur has been considered as important in mitral stenosis. Doctor White and others were influential in establishing the middiastolic murmur as early evidence of mitral stenosis. Since 1923, there has occasionally been some doubt as to the presence of mitral stenosis, even though the murmur is present. However, in the older group, even if there is no presystolic accentuation a middiastolic murmur suggests mitral stenosis. It is also important to remember that one may have a diastolic thrill as well as the diastolic murmur without mitral stenosis in the early cases.

Dr. Benedict F. Massell spoke on "An Evaluation of the Sedimentation Rate as a Test for Rheumatic Activity." He pointed out the importance of determining the duration of active infection as a guide to the treatment of the patient. Statistics on the corrected sedimentation rate in rheumatic fever patients were shown. By the method used (Rourke and Ernstene), a rate over 0.4 millimeter per minute is abnormal. The importance of the corrected sedimentation rate is evidenced by the fact that in very many cases it remains elevated after all other signs and symptoms of infection have disappeared, but Doctor Massell pointed out that there are an equal number of instances in which the white blood count persists as the only sign of active infection. The P-R interval of the electrocardiogram was shown to be frequently prolonged, and in three per cent of the cases was the last sign to return to normal. The clinical signs of active rheumatic fever, such as nodules, low grade fever, rash, and nose bleeds, must also be searched for carefully, as occasionally any one of these may be the only sign of activity. Therefore, it was concluded that the corrected sedimentation rate is of great value as a guide to the care of rheumatic fever patients, but that other laboratory tests (particularly the W B C) are still useful, and clinical observations must still be made. In evaluating the significance of an elevated sedimentation rate it must be remembered that the test is not specific and that there are many things which may accelerate it, such as colds, tonsillitis, tonsillectomy, and perhaps obesity. Doctor Blackfan brought out the point that a subnormal level of temperature may be as important a sign of activity as a slightly raised temperature, and Dr. Paul White said that the early murmurs spoken of above might be used as evidence of activity, and showed the presence of a dilated heart. Doctor Brown said about ninety per cent of patients with angina pectoris have an increased sedimentation rate.

Dr. James M. Faulkner presented the last paper on "The Effect of the Administration of Vitamin C in Rheumatic Fever." In the middle of the last century, lemon juice was thought to shorten the period of acute joint pain in rheumatic fever. Recently Rinehart in California has been able to cause joint changes and cardiac valve lesions, resembling those of rheumatic fever, in guinea pigs with scurvy and a superimposed infection. Doctor Wolbach has shown that the lack of cement substance in the tissues is the essential lesion in Vitamin C deficiencies, and Klinger has explained that a fibrillar degeneration of this "ground substance" is characteristic of rheumatic fever. In scurvy the formation of red blood cells is retarded, and there is usually an anemia with neutropenia. Administration of Vitamin C

causes a rise in the young reticulated red blood cells and a rise in the hemoglobin level in the anemia of scurvy. Doctor Faulkner reported the results of tests on the therapeutic effort of Vitamin C in rheumatic fever. A group with active infection was selected and the reticulocytes, hemoglobin, red blood cells, and sedimentation rate, were all followed. In general, Vitamin C appeared to have no influence on the course of the infection. However, the interesting observation was made that the reticulocyte count showed a definite rise up to as high as eight per cent after about nine or ten days. The same response was obtained with large doses of orange juice as with pure ascorbic acid by mouth or intravenously. A corresponding rise in hemoglobin was the rule when the initial hemoglobin level was low. In normals and recovered rheumatic fever patients, no such response was found but in several cases of active bone tuberculosis the same response followed the administration of Vitamin C. The cases giving the highest response were those which had signs of more active infection as evidenced by a higher white count and a more rapid sedimentation rate and fever. The above considerations suggest that the requirements for Vitamin C in infection are not adequately cared for by the normal diet.

## HARVARD MEDICAL SOCIETY

Dr. Elliott C. Cutler presided at a meeting of the Harvard Medical Society held at the Peter Bent Brigham Hospital March twenty-sixth. Doctor White presented the case of a sixty-two year old man who entered on March eleventh having had chills two weeks before. For the past twelve years he had had attacks of asthmatic bronchitis, and pneumonia three years ago. Physical examination showed a man propped up in bed and wheezing. There was arteriosclerosis of the retinal and peripheral vessels. His chest was emphysematous and there were numerous râles. The blood pressure was one hundred and fifty over eighty-five, hemoglobin seventy-five per cent, white blood cells twenty thousand, and temperature of one hundred and two degrees. The day after entry he had a severe pain in his precordium followed by circulatory collapse and auricular fibrillation for a few hours. Electrocardiogram showed a high take-off in leads II and III. A few days later there was a transitory period of complete heart block. The diagnosis was coronary occlusion.

Dr. Hyder presented a thirty-year old Negro who entered with dyspnea and a persistent cough of two months' duration, and who had had an attack of rheumatic fever with polyarthritis ten months previously. For the past two years he had had dyspnea on exertion which had been definitely worse in the past six months. Physical examination disclosed a markedly enlarged heart which was fibrillating. There was a presystolic and a rumbling diastolic murmur at the apex. The fourth, fifth, and sixth ribs were decompressed and he gradually improved postoperatively until, when presented, he had no dyspnea. His vital capacity was increased by about four hundred cubic centimeters. Doctor Cutler discussed the operation briefly and said that it was the persistent cough which had led to the attempt to decompress the heart in order to relieve the pressure on the left main bronchus.

Dr. Joseph T. Wearn from Cleveland discussed "The Circulation in Normal and Hypertrophied Hearts." He has injected the coronary vessels in some four hundred and fifty hearts and has demonstrated vessels in the valves in eighty-six per cent. The type of vessel was the same as that found elsewhere in the body. Doctor Wearn believes that probably ninety per cent of all hearts have vessels in the valves. He has found valvulitis in the absence of vessels, as well as vessels in the absence of valvulitis.

The pathologist frequently reports the myocardium as normal when there is clinical evidence of severe myocardial insufficiency. When cardiac muscle hypertrophies, it functions poorly. By injection of dye into an oxygenated perfusate which has caused a heart to beat again after death, Doctor Wearn has been able to determine the relative number of capillaries to muscle fibres in a given area of heart muscle in different cardiac conditions. The normal rabbit has three thousand capillaries per square millimeter. In rabbits with cardiac hypertrophy there is a definite increase in the size of the fibres, and the number of capillaries per square millimeter is definitely diminished. In human beings there is also a marked increase in the size of the fibres whenever there is hypertrophy without a corresponding increase in the number of capillaries. The result of this is that in hypertrophied hearts there is a much less adequate supply of oxygen, because it is farther from a capillary to any given point than in a normal heart. Thus the products of metabolism are poorly removed, and this interferes with muscle action so that a hypertrophied heart does not perform so well as a normal one.

Dr. Claude S. Beck spoke on "The Establishment of Collateral Blood Channels to the Heart by Operation." The myocardium is defenseless after a coronary occlusion, because it cannot rest, and there is no opportunity to develop a collateral blood supply such as can be done in any other muscle. A large series of animal investigations were carried out in an attempt to create collateral vascular channels. In order to create a vascular bed, the pericardium, the substernal muscle, mediastinal tissue, or omentum was used. In order to create a need in the heart muscle for this collateral vascular bed, the coronaries were gradually occluded by means of silver bands.

Several slides of the specimens were shown, and by special injection methods the progressive amount of occlusion of the coronaries was shown. When, after a collateral bed had been established, gradual coronary occlusion was carried out, there was very little death of myocardial fibres. Doctor Beck concluded that these hearts had been given a new blood supply.

Of ten dogs seven died after ligation of the right coronary artery, but in another series of twelve dogs where they had been prepared by establishing a vascular bed for a collateral circulation, the occlusion of the right coronary artery caused only two to die, and one of these from empyema. In this way Doctor Beck has protected the heart from sudden complete coronary occlusion.

This method has been tried on one patient with coronary disease. The insertion of the pectoralis major was cut and a pedicle graft of the muscle was made. The pericardium was opened, and the inner surface roughened. Then the graft was divided, one part attached to the apex and the other near the base of the heart and then sutured to the pericardium. Although as yet nothing can be said of the clinical benefit derived from such procedures, it seems that in the future a definite advance may be made along this line.

In the discussion, Doctor Beck pointed out that there was no cardiac complication resulting from adhesions. Doctor Christian said that there is an example of simple methods of investigation producing important new information concerning an old problem.

## WACHUSETT MEDICAL IMPROVEMENT SOCIETY

The Wachusett Medical Improvement Society held its final regular meeting of the season at Holden District Hospital on the evening of June 19.

After dinner the committee on outings reported and it was arranged to have the regular annual outing at Seiler's in Wayland on July 3, ladies invited. A trip on Dr. William B. Davidson's yacht was planned for July 28.

The speaker of the evening was Dr. John C. Corrigan, Research Fellow in Preventive Medicine, Tufts College Medical School, whose subject was "The Clinical Management of Edema."

## SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

**June 24**—Boston City Hospital. Henry Willard Williams Memorial Lecture will be given at 8:15 P.M., in the Cheever Amphitheatre.

**June 24-28**—American Urological Association and Western Branch Society, American Urological Association, will meet at the Palace Hotel, San Francisco, California. For details write Dr. Charles P. Mathé, 450 Sutter Street, San Francisco, California.

**June 27-29 inc.**—British National Association for the Prevention of Tuberculosis will be held at Southport, England. Persons desiring further information should write to Miss F. Stickland, Secretary of the Association at Tavistoc's House North, Tavistock Square, London, W. C. I., England.

**July 1-23**—University of Freiburg i. Br. will hold a vacation course of the medical faculty. For information address Akademische Auslandsstelle der Universität Freiburg i. Br., Schwimmbadstrasse 8, Germany.

**July 6**—Staff rounds at the Peter Bent Brigham Hospital, 10-12. Open to practicing physicians.

**July 22-27**—Seventh International Congress on Industrial Accidents and Diseases, Brussels, Belgium. The American Committee of the Congress is under the chairmanship of Dr. Fred H. Albee, New York, for the Section on Accidents, and that of Dr. Emery R. Hayhurst, Columbus, Ohio, for Industrial Diseases. The American delegation to the Congress will sail from New York on July 8 and visit London, Amsterdam, The Hague and Paris, and, optionally, Budapest. Physicians interested in the Congress or in the medical tour in conjunction with it, may address the Secretary, Dr. Richard Kovacs, 1100 Park Avenue, New York City.

**August 29 - September 5**—Latin American Congress of Physical Therapy, X-Ray and Radium. For information address Dr. Madge C. L. McGuiness, 1211 Madison Avenue, New York City.

**October 7-10**—American Public Health Association will meet in Milwaukee, Wisconsin. For information address the American Public Health Association, 50 West 50th Street, New York City.

**October 21 - November 2**—1935 Graduate Fortnight of the New York Academy of Medicine. See page 898, issue of May 9.

**October 28 - November 1**—The Twenty-Fifth Clinical Congress of the American College of Surgeons. See page 1065, issue of May 30.

## BOOK REVIEWS

**The Autonomic Diseases or The Rheumatic Syndrome.** T. M. Rivers. 299 pp. Philadelphia: Dorrance & Company, Inc. $3.00.

Apparently this book presents the work of an intelligent, individualistic type of man. In its two hundred and seventy-seven pages an attempt is made to cover the rheumatic syndrome, autonomic nervous system disorders, heart disease, respiratory disease, alimentary tract disorders, uterine irregularities, and other syndromes affected by the autonomic nervous system. The disturbances of the autonomic nervous system, tissue and joint disease are dependent upon allergens whose action in one person, under certain conditions, will produce a genuine arthritis: in another individual with the same factors another disease syndrome. Why each individual does not develop the same type of disease is unknown.

The author's attempt to cover a great deal of ground because of the relationship between various disease syndromes with one common mechanism affected has resulted in a bulky volume, in which his meaning is not always clearly expressed. If the book is read carefully one will be well repaid, because there is between its covers a tremendous amount of information. A definite plan is followed but the text impresses one as having been written hastily.

Arthritis: The author has made an earnest attempt to learn more of the prophylaxis, the etiology and the pathological picture of real arthritis, that is rheumatoid or atrophic arthritis. The results of his experimental work with animals form the basis of his conception of arthritis, which briefly is as follows: Atrophic arthritis is the result of the action of an amine toxin, bacterial in origin. It starts from a focal infection. The bacteria from this focus enter the blood stream and produce a general systemic infection, thus making it possible for bacteria to enter in or about a joint and produce another focal infection. The bacteria produce toxin at their sites. This toxin is an amine, probably an isoamylamine, which amine is formed by decarboxylation of the amino acid lucine. Amino acid is always present in body tissue, and the amines are formed by enzymic action of the bacteria on this division of the body proteins. Arthritis is produced by the action of these amines resulting from bacterial action. Bacteria emit enzymes which digest and decarboxylate

the amino acids, converting them into amines. Bacteria lodge in tissue within or adjacent to the affected joints and produce amines when in contact with it. Distal focal infections may transmit toxins through blood vessels or lymph channels and so reach the joints producing joint changes. Amines may also be transmitted through the autonomic nervous system and so cause joint tissue damage.

Treatment: The author's own summary of treatment follows:

1. Foremost of all treatment for all kinds of arthritis is prophylaxis, which should begin with early infancy and should be continued through childhood and youth.
2. Removal of the cause is of primary importance as soon as the disease is discovered:
   (a) Removal of diseased tonsils, teeth, etc.
   (b) Treatment of diseased mucous membranes.
   (c) Correcting constipation.
   (d) Ultraviolet rays to destroy infection and convert sterols into viosterol.
   (e) Increased vitamins A and D to increase the resistance of the tissues against infection.
   (f) Autogenous vaccines.
3. Elimination of toxins via skin, kidneys, lungs and bowels.
4. Desensitize or move away from the causative allergens.
5. Adjust the mind to a state of equilibrium by pleasant surroundings.
6. Adjustment of rest and exercise.
7. Correction of digestive disorders.
8. Correction of endocrine imbalance.
9. Physiotherapy—heat, massage, electricity, etc.
10. Drugs—relaxives, alteratives, stimulants, tonics, and laxatives as indicated. Avoid depressants.
11. Constructive diet rich in proteins and vitamins.
12. Surgery—sympathetic and orthopedic.

Whereas the author recognizes the importance of prophylaxis to prevent the appearance later in life of arthritis, he does not make clear that there are times when the removal of foci of infection may be the precipitating cause sending the patient *into* the disease from which attempt is being made to save him. He appreciates the value of following patients from the beginning to the end of their disease, but in no place in the book was this idea more than mentioned. No yearly follow-up examinations with clinical or scientific changes were reported. He has followed the example of many authors and touched here and there on the importance of the psychical factor in its effect on physiology, but he has not stressed it. No practical suggestions are offered to an individual looking for assistance in treatment along this line.

The book may be summed up as one presenting the usual ideas of etiology, or precipitating factors, of chronic arthritis and the usual forms of treatment, with emphasis laid on individual rather than blanket form treatment. An attempt is made in addition to place the etiology of arthritis upon a rather specific basis, that is, the action of amines directly or indirectly upon the joint and neighboring tissues. The author recognizes also that patients presenting the same apparent potential factors may not have arthritis. As is usual, fatigue, inheritance, environment, malnutrition, nervous strain, etc., are mentioned as the additional "X's" which may precipitate the potential "chronic" into an actual disease syndrome. The book does offer a new idea, which is developed a reasonable distance, but the author, himself, appreciates how short a way he has traveled in his attempts to present facts covering the entire course of disease. It definitely gives one food for thought, and those individuals who are interested in keeping in touch with all of the various arthritic studies will find it a worth-while addition to their collection.

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**Human Personality and the Environment.** Charles Macfie Campbell. 252 pp. New York: The Macmillan Company, 1934. $3.00.

The Lowell Lectures, given to popular audiences, have often served to summarize a current subject in such a manner that the average listener or reader can grasp the significance without being encumbered by the minutiae of scientific or literary investigation. Such is the case in the book under consideration. Clearly set forth in the easy style of an accomplished speaker, we follow the delightful path of modern psychobiography. Old friends are recalled in the light of their "feeling-tone of personal experience". We see how they maintained the equilibrium between conflicting internal tendencies, with their personalities often handicapped by intrinsic and extrinsic factors. Dr. Campbell takes his examples from a wide field: Roosevelt, Byron, Captain Scott, Robespierre, Beethoven, Father Doyle and many others. He shows how the human personality adapts itself to its environment and utilizes that environment for the experience of its own indwelling spirit.

The environment may be considered as either a physico-chemical system or a spiritual universe; undue emphasis is laid on neither. Both play a part and to each does man owe something of his total personality. The essence of this book is found in this formulation: the charm of its style reflects the author's own delightful personality. To the thoughtful physician, whose interests spread to mankind, the book will give many hours of pleasure.

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**Medical Tactics and Logistics.** Colonel Gustavus M. Blech and Colonel Charles Lynch. 205 pp. Springfield and Baltimore: Charles C Thomas. $4.00.

"Medical Tactics and Logistics" gives to the civilian physician in the text with the accompanying maps a well ordered and simply stated account of the medical officers' duties in the Army while on active service in time of war. In the thirteen chapters the theory of war, the development of tactics, wars of the future, and organization of the medical service at the front are successively taken up.

The medical department's activities in the unit

of an infantry regiment on the march, in different active manoeuvres, in offensive and defensive warfare, and later with the cavalry arm of the service are clearly described. Duties and varying situations in which the medical officer may find himself in an actual battle are depicted. The descriptive methods used, of officers in conversation about various problems during the battle, give much added force to the subject, and the reader visualizes "Capt. Lint, Capt. Splint, and Capt. Binder" talking of their various problems and orders, in a very vivid way.

The thought and planning for the medical arm of the service in action at the present time and the careful training and rigid attention to all that make for the quickest and best service for the wounded at the casualty clearing stations and the hospitals are in vivid contrast to the casual methods used in years past.

In this contrast it is interesting to note an example of the lack of organization in the medical service during the Civil War taken from "The Irrepressible Conflict" by Arthur Charles Cole (Macmillan Co., N. Y., 1934).

"Many of the better trained city physicians promptly enlisted and were given commissions for active service. On the other hand in the rural areas any one who possessed a small stock of medicine, a few receipts, and a knowledge of how to bleed a patient was accepted as a military doctor.

"After a battle all the doctors who could be spared from a city like Richmond hurried off to the field. For miles around any dwelling served as a hospital for Richmond. Public buildings and tobacco factories sheltered the sick and wounded, sometimes to a total of thirty thousand men."

Every physician unfamiliar with modern military medical procedures should read "Medical Tactics and Logistics", and its introduction as obligatory reading for senior medical students would be both a logical and beneficial addition to the medical curriculum.

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**Physical Diagnosis.** Warren P. Elmer and W. D. Rose. Seventh Edition. 919 pp. St. Louis. The C. V. Mosby Company. $8.00.

This book is larger than most recent volumes on Physical Diagnosis. It is carefully planned, very complete and well illustrated. The first and somewhat greater part deals with the technic of physical examination by inspection, palpation, percussion and auscultation, with description of the normal findings and of the recognized departures from them. More briefly the neurologic examination, special procedures such as exploratory puncture, radiology and electrocardiography are included. The second part of the book is composed of discussions of separate diseases of the respiratory and circulatory systems, their clinical pathology and symptoms, their physical signs and their diagnosis. These are admirably executed.

Yet, excellent as the book is, the trend of modern teaching has lessened its usefulness. Physical diagnosis is a practical procedure which is easy to demonstrate but difficult to describe, so that the increase of practical instruction has reduced the need for printed descriptions. For review and explanation, brief manuals are commonly sufficient. This volume is more extensive than most students will be able to study systematically, although they may well use it for reference. Perhaps its greater service will be to physicians who find themselves deficient in this subject but are unable to take courses of instruction. To these it may be recommended.

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**The Medical Clinics of North America. Volume 18. Number 3. November, 1934.** 301 pp. Philadelphia and London: W. B. Saunders Company. Paper, $12.00; Cloth, $16.00 net.

With the publication of this number is announced a "radical change of policy", featured by the discussion of everyday problems for the benefit of the general practitioner together with an elaboration of the "symposium idea". The volume is opened by a symposium on the Adenopathies, the first portion (70 pages) being covered by a treatise on "Lymphadenopathy, A Clinical Interpretation" by Drs. I. W. Held and A. A. Goldbloom. This "clinic" contains a good classification of the various disorders of the lymph-nodes. Aside from this, however, it is composed in great part of a hodge-podge of hastily-written, often inaccurate information. "Glandular fever", for instance, is sharply distinguished from "Infectious Mononucleosis" despite the world-wide consensus that the two terms are synonymous. There is much loose writing, references are frequently inaccurate, and some of the concepts border on the fantastic. Particularly is this true in the chapter on Status Lymphaticus which is said to be due to intrauterine infection. Individuals who readily develop lymphocytosis, who become infected with glandular fever, who develop agranulocytosis, and of course those who die suddenly, are usually "typical status lymphaticus".

In sharp contrast to this clinic, is the second one by Dr. Lloyd F. Carver of the Memorial Hospital, who gives a sober, exceedingly practical and eminently sane presentation of the treatment of the more important lymphadenopathies with special reference to irradiation. There can be nothing but praise for this section and for most of the articles which follow.

Dr. Harlow Brooks writes in a very practical fashion on the recognition and treatment of the failing heart, and Dr. Ernst P. Boas gives an excellent little treatise on the treatment of angina pectoris. R. T. Frank's paper on the diagnosis and treatment of the menstrual disorders is very sane and very practical. Henry B. Richardson writes an interesting chapter on the relation of the thyroid gland to Graves' disease emphasizing that the fundamental disorder is not in the thyroid gland proper, and that surgical treatment is often illogical. Tolstoi contributes an unusually practical article on the dietetic

treatment of diabetes illustrated by valuable diet lists and photographic illustrations. There is also a good article by Bastedo on functional colon states.

There can be no question but that this volume should prove exceedingly valuable to the general practitioner. It gives him just the practical points for which he often yearns but frequently does not obtain. The reviewer may be pardoned for being possibly captious when he inquires as to the difference between an article and a "clinic". Is a "clinic" simply a loosely-written article or is it a bedside exposition? With careful editing, these articles will justify the "radical change in policy" which has been inaugurated.

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**The Journal of Technical Methods and Bulletin of the International Association of Medical Museums, No. XIV.** Edited by Maude E. Abbott. 134 pp. Montreal: The Medical Museum. $2.00.

The work of the International Association of Medical Museums is unique in its field and the current number of its Journal contains material of value to everyone interested in the visual records of pathology. It is now an annual publication and contains only recent articles and confines its contributions to technical methods, cardiac anomalies and teratology, and the Proceedings of the Association. One of its most important functions is the combination in one periodical of the experience of various countries as to the most effective preservation and display of pathological specimens. This it can do by the international character of the membership of the Association headed by Professor J. Ludwig Aschoff in Germany, Sir Arthur Keith in England, and Dr. Maude E. Abbott in Montreal. No one can look through the illustrations in this number without being struck by the technical excellence of the displayed specimens which helps so much to make medical museums stimulating to students. There are articles on Museum Administration, Museum Technique, Cardiovascular Anomalies, and Abstracts of Current Literature. The Journal is distinctly a worth-while addition to the library of anyone who is interested in the preservation of the data of medical experience which are often so transitory when confined to the memory or even to the written descriptions of the physician.

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**Practical Neurological Diagnosis.** With special reference to the problems of neurosurgery. R. Glen Spurling. 233 pp. Springfield and Baltimore: Charles C Thomas. $4.00.

This short, up-to-date monograph covers the field of structural neurology, particularly in its application to neurosurgery. The larger part of the book is given over to straightforward neurological examination, none of which calls for special comment, as similar material is to be found in many textbooks. The illustrations of neurological tests are adequate and the author has brought the material up to date, based on physiological researches published within a few years. A second section, on the cerebrospinal fluid, gives the usual data respecting the technique of lumbar puncture and the laboratory examinations. Cistern puncture is not explained, although the latter part of the book, demonstrating the use of lipiodol in the subarachnoid space, makes a knowledge of this procedure necessary. It would seem to the reviewer that this procedure, often simpler than lumbar puncture, should find a place in a book on neurological diagnosis. The final section deals with x-ray diagnosis and is illustrated by some excellent photographs, showing the effects of brain tumors on the skull, encephalograms and lipiodol injections of the spine. In summarizing the value of lipiodol as a diagnostic agent the author states (page 225), "If it is resorted to in the presence of a normal Queckenstedt test, the examination will yield no valuable information." This is certainly not the experience of other investigators. In intramedullary cord tumors and, more especially, in lesions below the end of the conus, lipiodol often discloses pathology when the Queckenstedt test is negative.

Except for a few minor points, therefore, this book can be highly recommended as a simple account of the principles of neurological diagnosis and as many neurosurgeons now prepare themselves for their specialty by adequate neurological training, this book should find a useful place in their particular field.

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**Cases Presented at the Staff Meetings, Neurological Service, Massachusetts General Hospital, 1934.** Pp. 126. Privately printed.

This is the fifth of a series of mimeographed sheets bound together in book form, with a careful index and illustrated by photographs and diagrams, which has been published by the Neurological Department of the Massachusetts General Hospital, under the supervision of Dr. J. B. Ayer. It records the important features of the histories of all patients presented at the Thursday morning conferences, in many cases supplemented by follow-up notes. As these patients are usually the most important examples of neurological conditions which occur in the hospital at the time of their presentation, the book forms a very valuable record of neurological hospital practice during the course of a year. The illustrations add greatly to the value of the book. A glance through the index indicates the type of disease shown by patients who come to a general hospital for neurological diagnosis and treatment. Particularly important are the cases of cerebral aneurysm, various types of encephalomyelitis, epilepsy of the Jacksonian type, brain tumors which have been verified either by operation or postmortem examination, meningitis, and a long list of diseases of the spinal cord. Thirty-seven cases of brain tumor are described and fourteen cases of tumor of the spinal cord, thus reflecting the close relation between neurology and neurosurgery. Nearly twenty cases, moreover, were referred to the clinic on account of disease of the eye. In general the publication reflects great credit upon the Neurological Department of the hospital.